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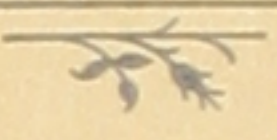
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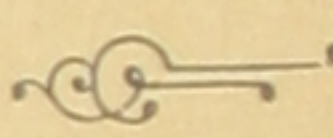
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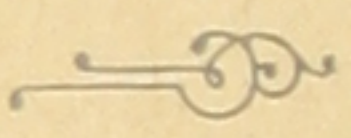


The British
and United States Patents
are for sale.



If desired

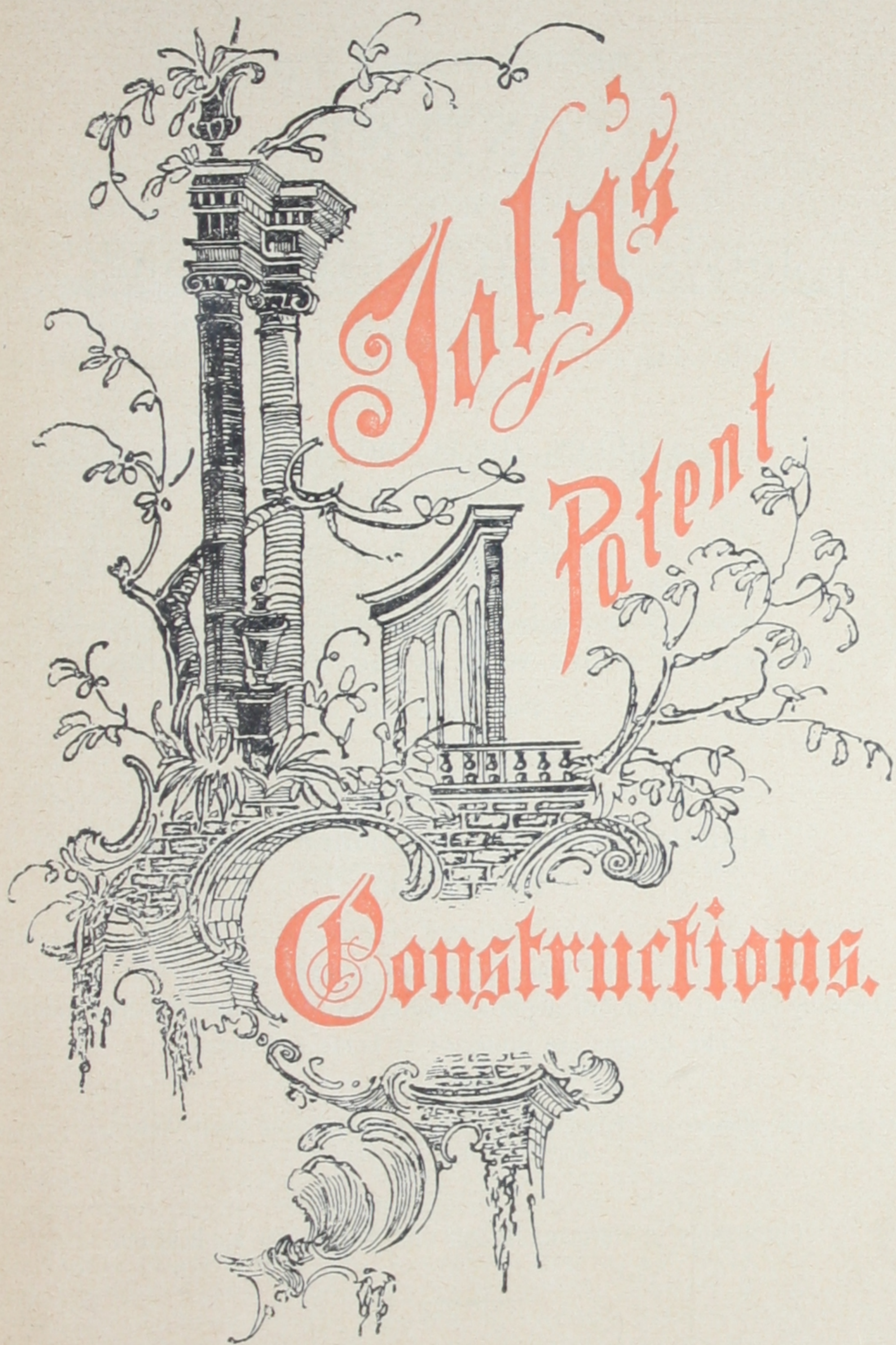
The Eisenwerk 

 *Joly Wittenberg*

supplies

*complete plant for manufacturing
the patent constructions.*





CONTENTS.

Joly's patent constructions:

Girders

Page 3 to 16.

Ceilings, Roofs and Bridges

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Brackets and arms

Page 25 to 28.

Fireproof stairs with wood or stone steps

Page 29 to 55.

Supplement:

Artistic Staircases of former centuries

Page 56 to 62.

The constructions are patented
in Germany and all the more important European States and in North America.
The designs are protected at home and abroad.

The Austrian, Hungarian, Italian, Swiss, English, French and North American patents
may be had at a royalty.

Catalogues in German, Italian and French on application.

Joly's Patent Girders.*

(Fireproof.)

They are wrought iron lattice girders with art castings and may employed uncovered to support ceilings, roofs, bridges &c.; they are particularly adapted as substitutes for the **I** girders hitherto employed or in case riveted lattice girders appear too plain.

Construction: Two wrought iron rails *a* and *a'* (fig. 1) are held apart by means of wrought or cast iron tubular distance

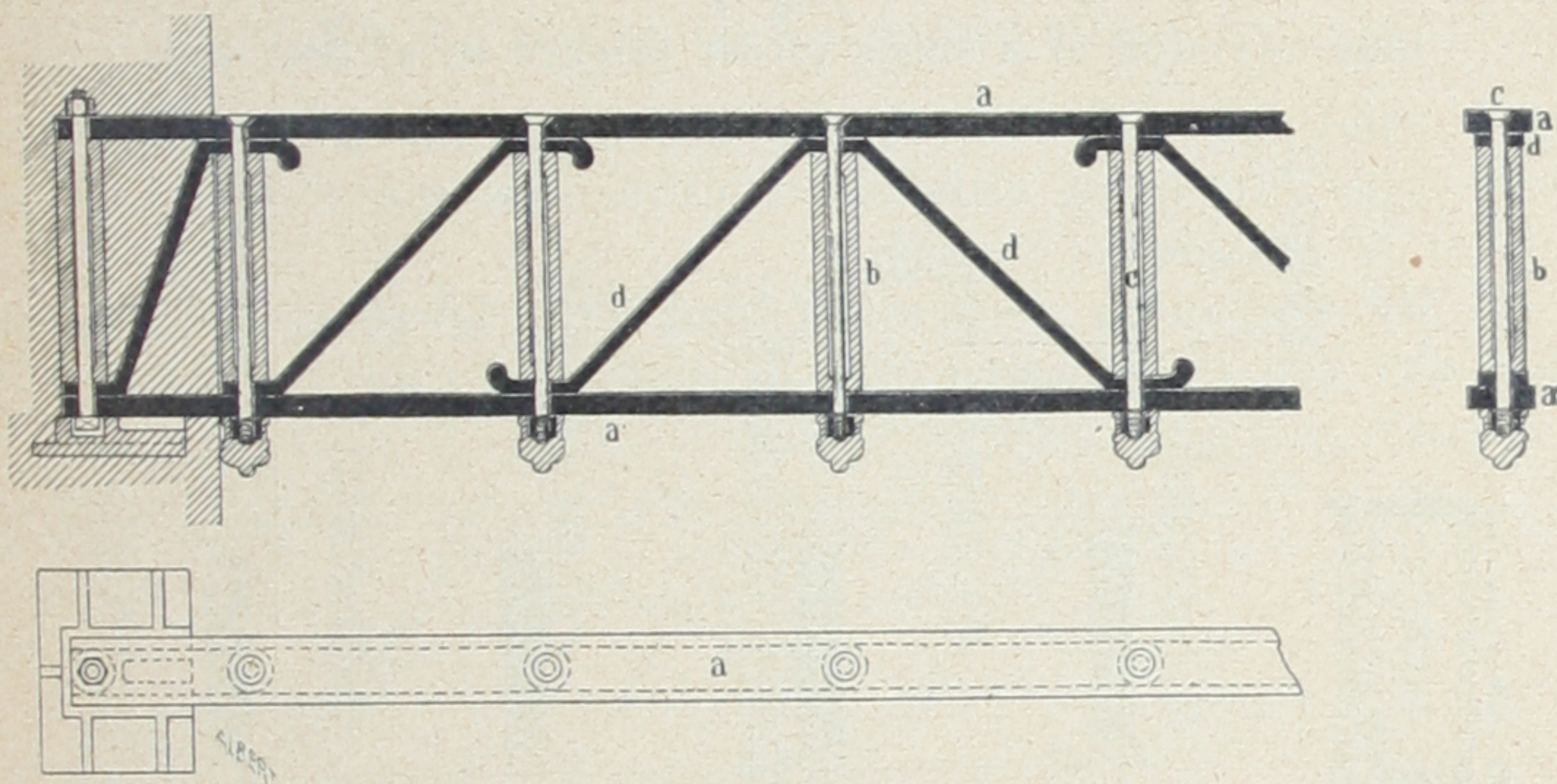


Fig. 1. Construction of the patent girder.

pieces or blocks and bolted together with wrought iron bolts *c*. Diagonal stays run from block to block and passing between block and girder are penetrated and held in position by the bolts *c*.

* Supplied for the Imperial Post, Wittenberg, to the Board of the Royal Railway at Cologne; the Royal Garrison Hospital, Potsdam; Royal Infantry Barracks, Hildesheim; Royal Ammunition Factory, Spandau; German Representative House, World's Exhibition, Chicago; Municipal Administration Building, Berlin (am Mühlendamm); the Higher Class Burgher-School, Berlin; the Luther Church, Berlin; the Town Hall, Zerbst; the Berlin Jute-Spinning and Weaving Works; Kayser & von Grossheim; Tüshaus & von Abbema, Düsseldorf; Le Brun, Cologne; Baeckers „Warenhaus“ Solingen; Messrs. Pintsch, Berlin; R. Wolf, Buckau-Magdeburg; Trebitz Castle on the Elbe; Castle Alpenquai, Zürich; Army & Navy Stores, Berlin; Hotel Jung, Rüdesheim; Hotel Escherhaus, Wesel, &c.

Fig. 2 shows a side elevation of a girder of this kind in plain execution.

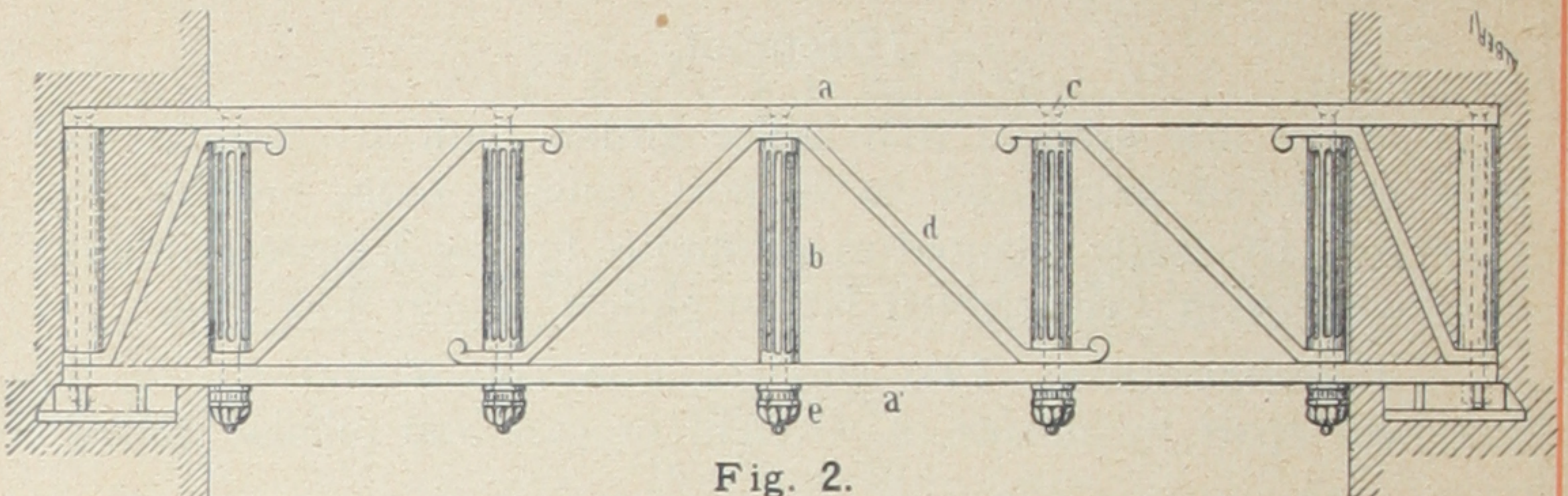


Fig. 2.

Side elevation of a single girder bricked in at both ends.

The nuts (rivet heads) on the lower rail *a'* are provided with caps. In more elaborate constructions the distance blocks consist of ornamental castings.

By employing one upper and one lower girder, several diagonals can be arranged side by side, and thus coupled girders as shown in fig. 3 may be formed.

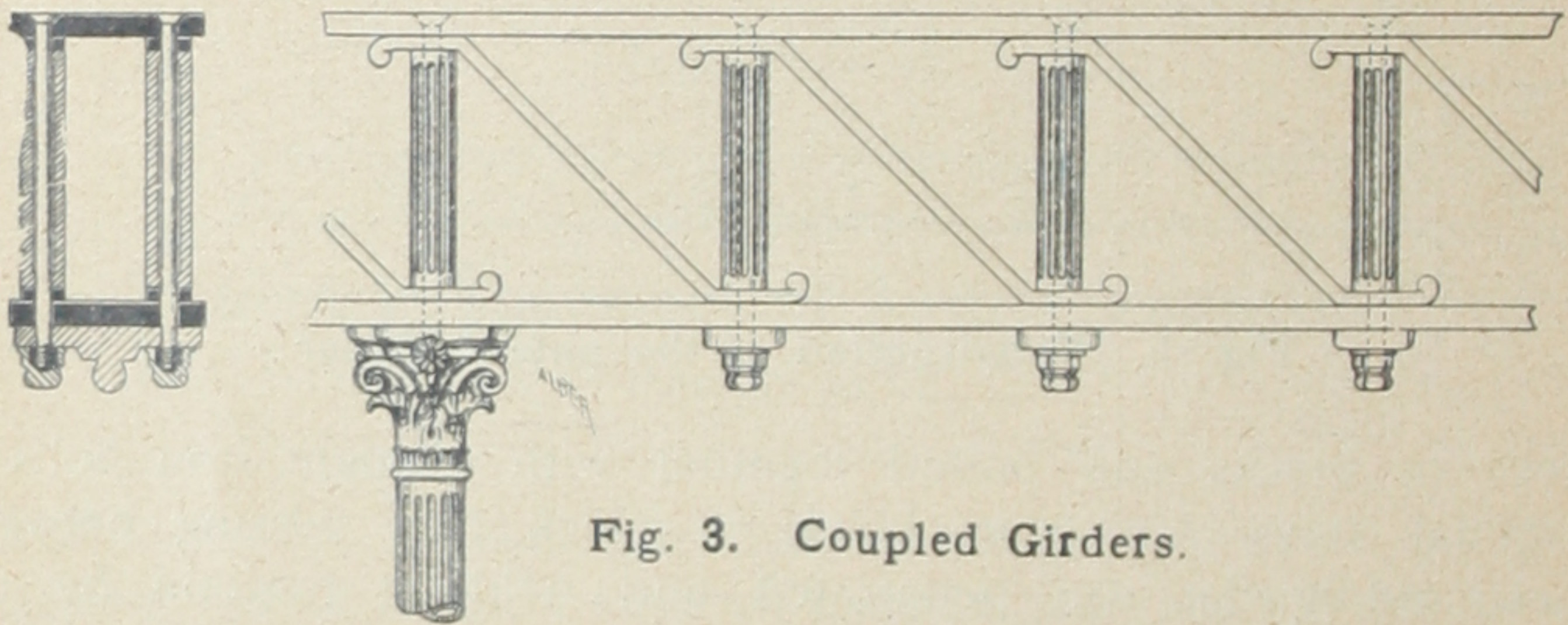


Fig. 3. Coupled Girders.

The representations 4-6 show various arrangements of the girders.

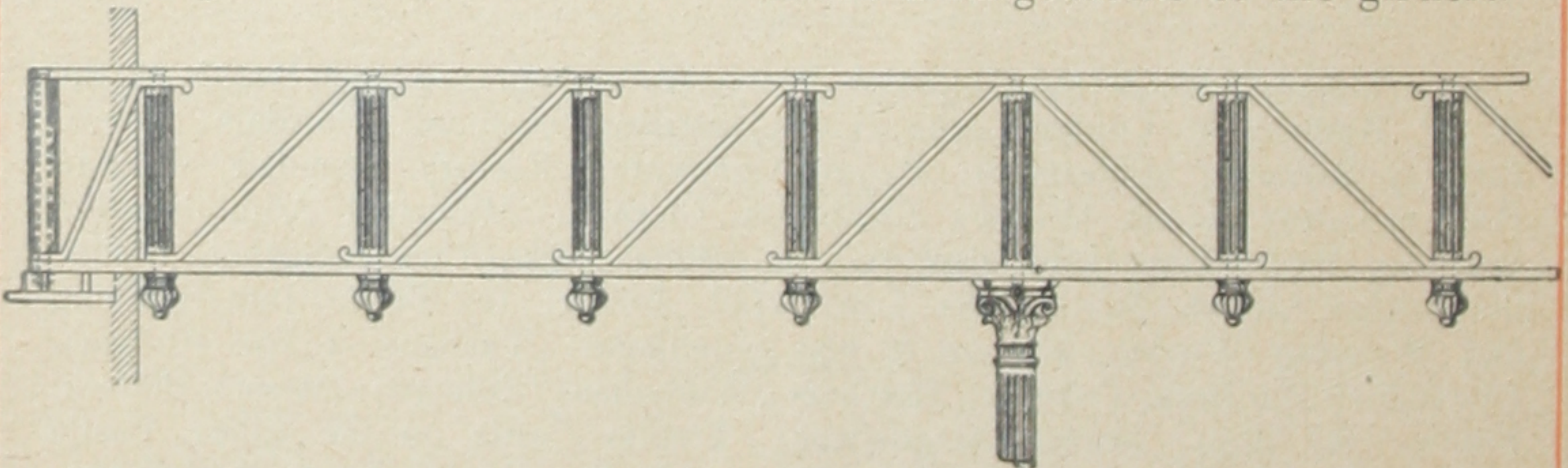


Fig. 4. Girder bricked in and supported on a column.

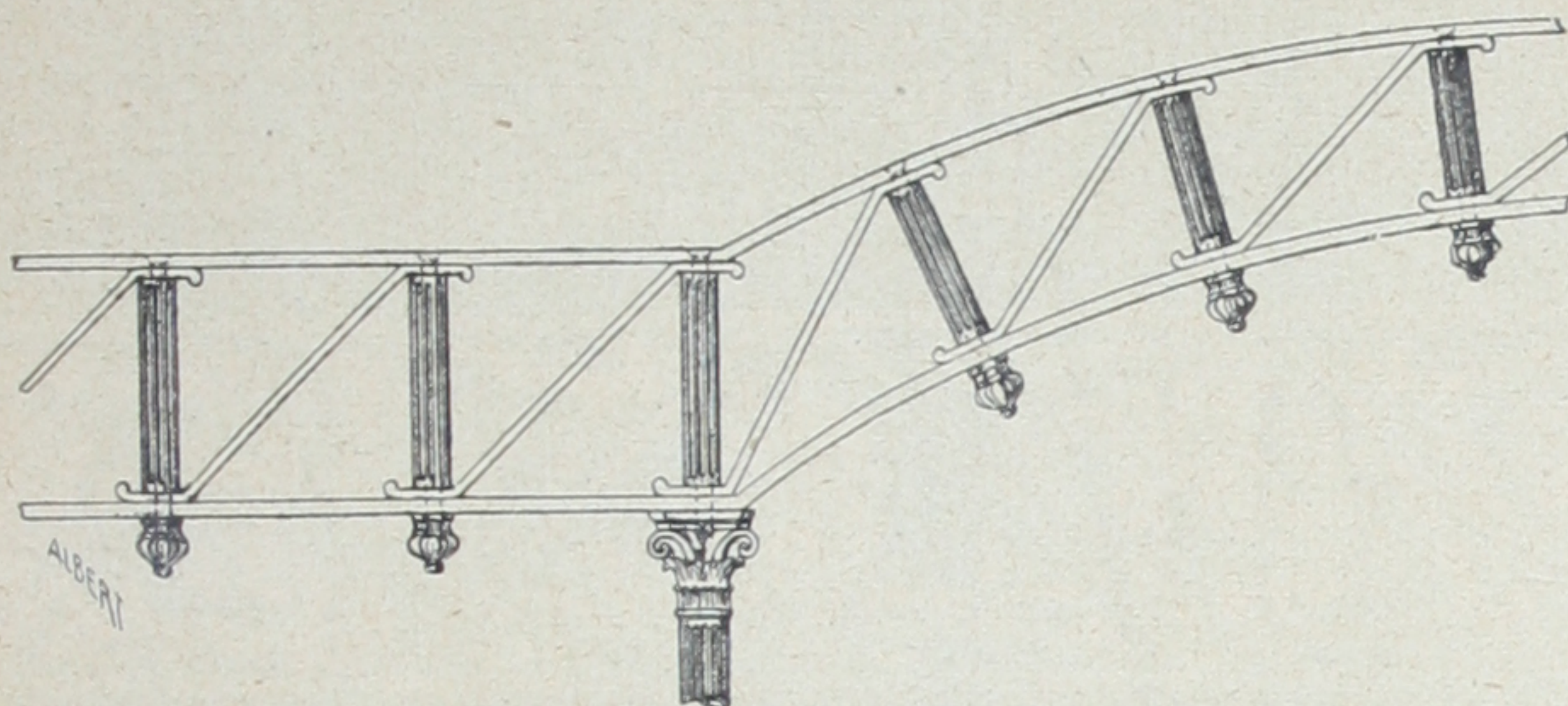


Fig. 5. Horizontal and arched girders.

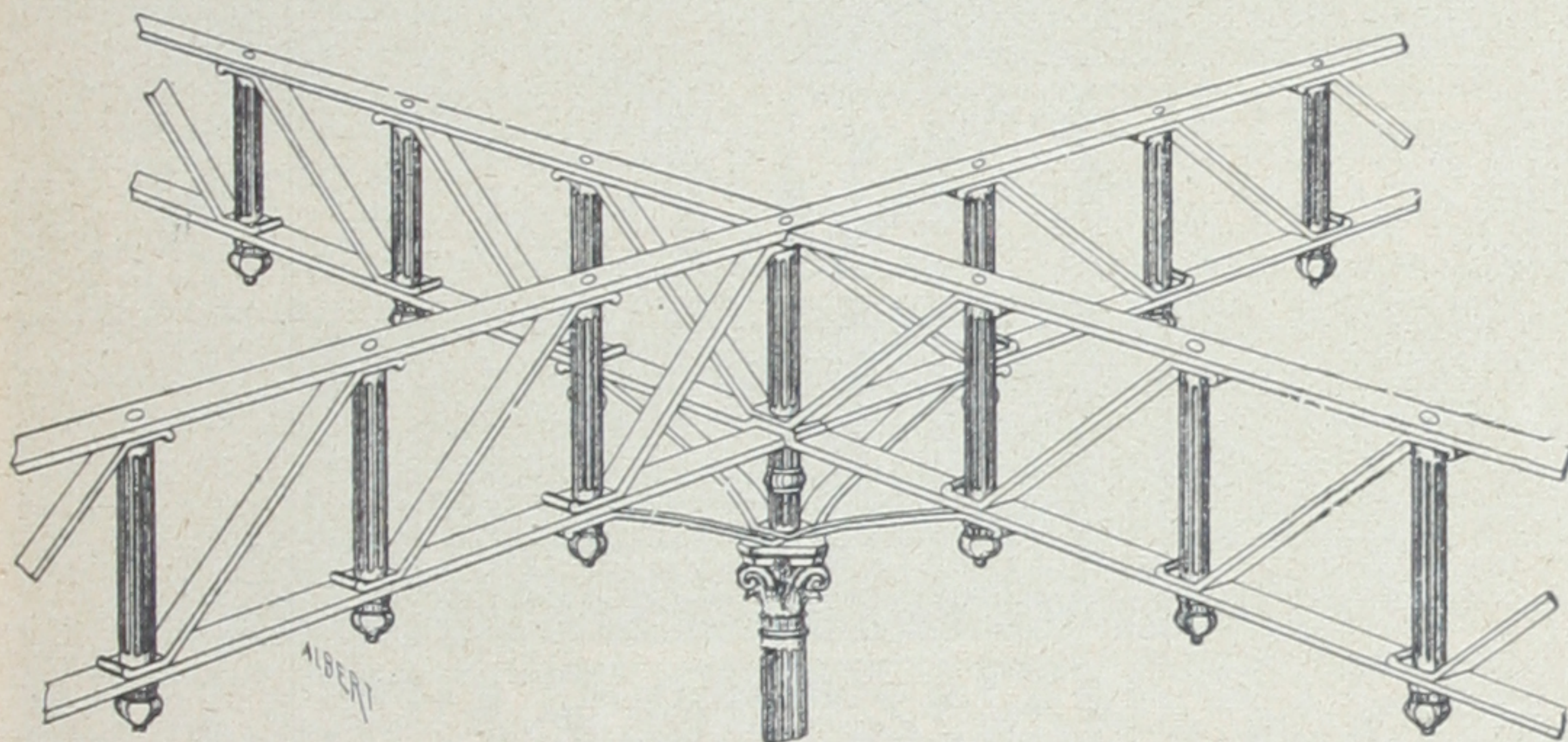


Fig. 6. Crossed girders supported on a column.

The girders may be also arranged without the supporting column.

The representations on pages 6—10 show girders in various executions and sizes; those on pages 11—16 are taken from the practice.

Joly's Träger
im classischen Styl.



Joly's Träger
im modernen Renaissancestyl.

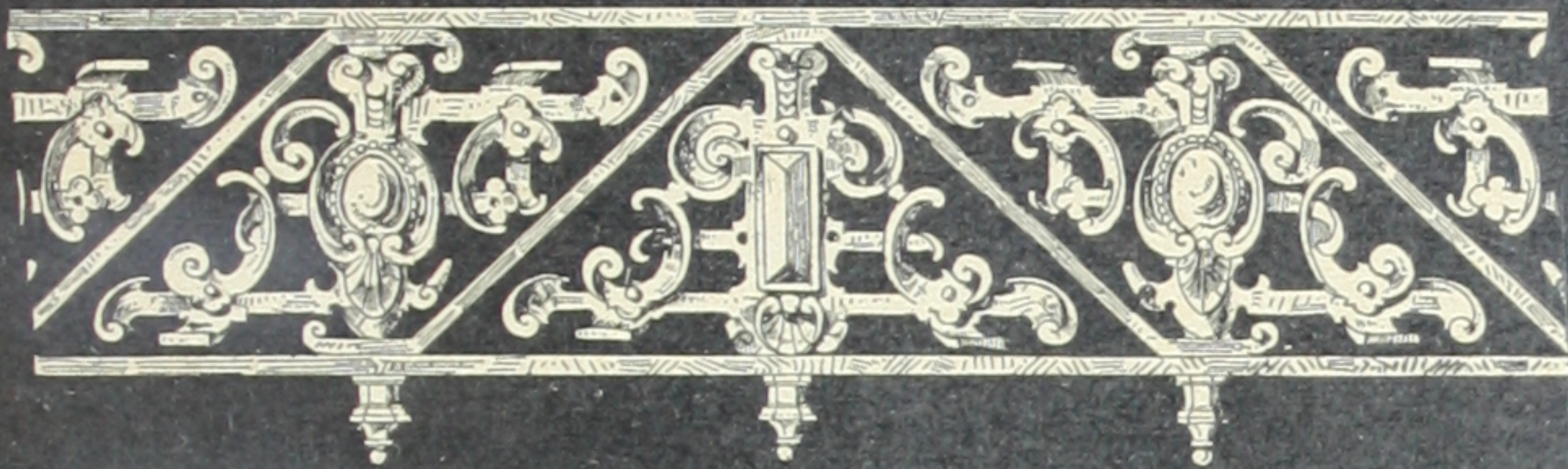


Figs. 7 to 12. Patent girders in various styles.

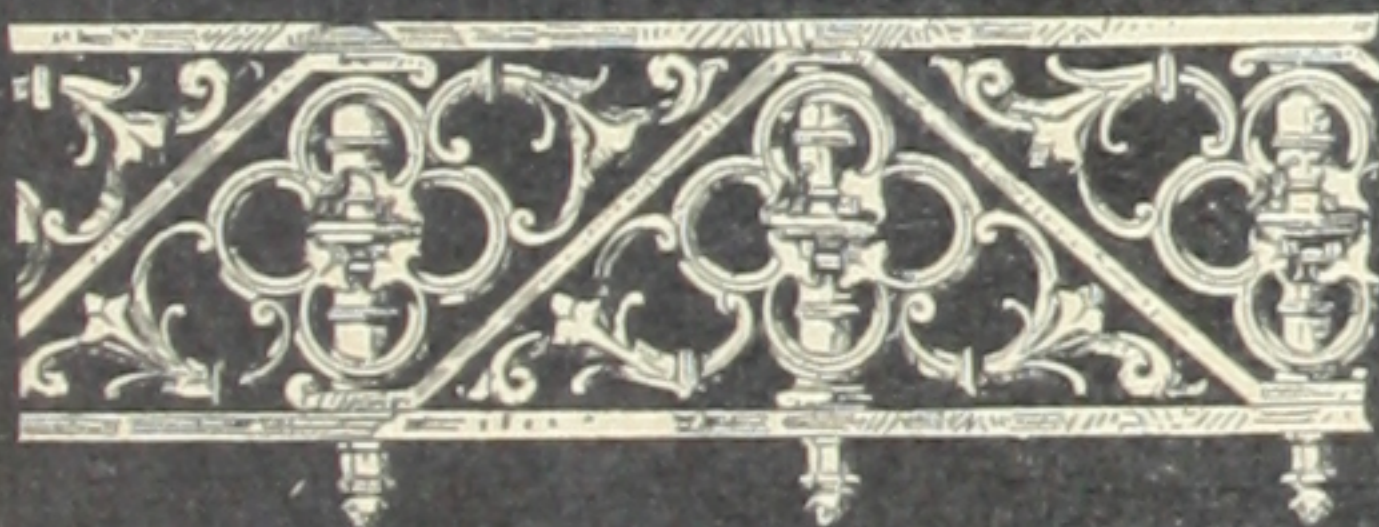
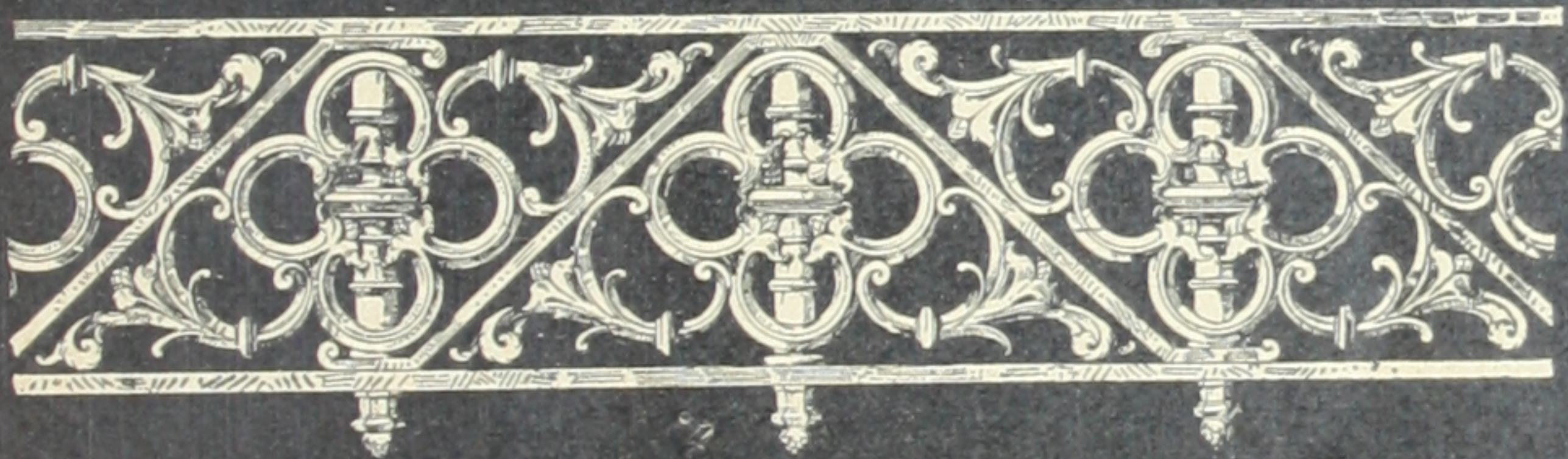
Figs. 7 to 9. Joly's Girders Classic Style.

„ 10 to 12. „ „ Modern Renaissance.

Joly's Träger
im Deutschen Renaissancestyl.



Joly's Träger
im gothischen Styl.



Figs. 13 to 18. Patent girders in various styles.

Figs. 13 to 15. Joly's Girders German Renaissance.

„ 16 to 18. „ „ Gothic.

Joly's Träger
im Rococo-Styl.



Joly's Träger
im Barock-Styl.

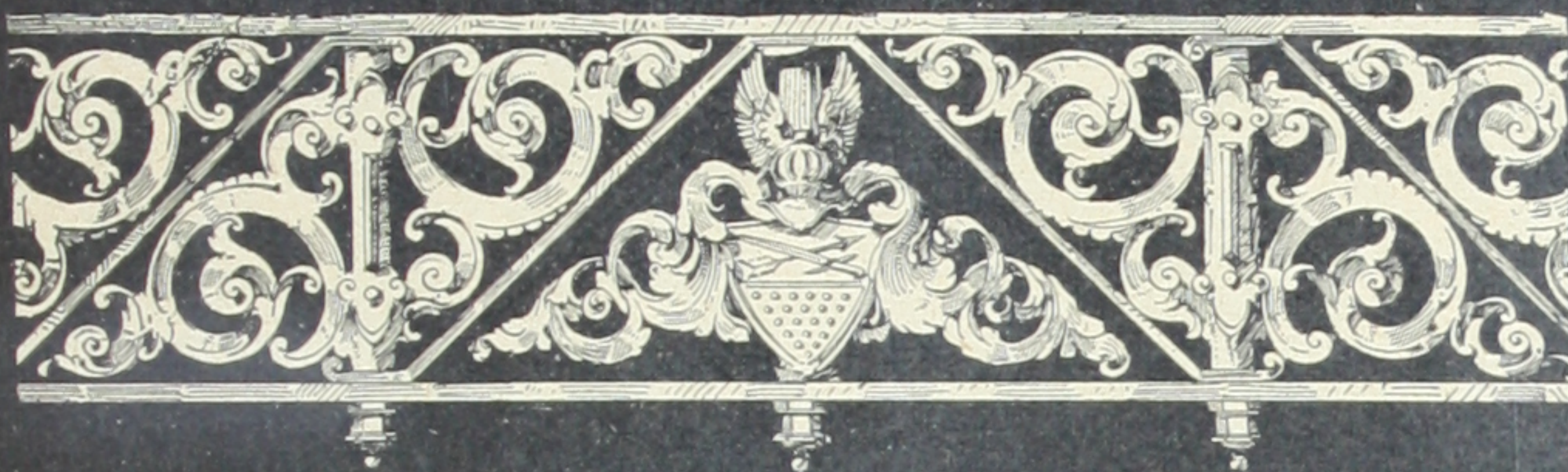


Figs. 19 to 24. Patent girders in various styles.

Figs. 19 to 21. Joly's Girders Rococo.

„ 22 to 24. „ „ Baroque.

Joly's Träger mit Wappen.



Joly's Träger für Speisezimmer.



Joly's Träger für Musiksäle.



Figs. 25 to 27. Patent girders.

- | | | |
|---------|----------------|--------------------|
| Fig. 25 | Joly's Girders | with coat of arms. |
| " 26. | " " | for dining rooms. |
| " 27. | " " | " Concert halls. |

Joly's Träger
für Postgebäude.



Joly's Träger
für Telegraphengebäude.



Joly's Träger
für Eisenbahngebäude.



Figs. 28 to 30. Patent girders.

- | | | |
|----------|-------------------------|-------------|
| Fig. 28. | Joly's Girders for Post | Offices. |
| " 29. | " " " | Telegraph " |
| " 30. | " " " | Railway " |

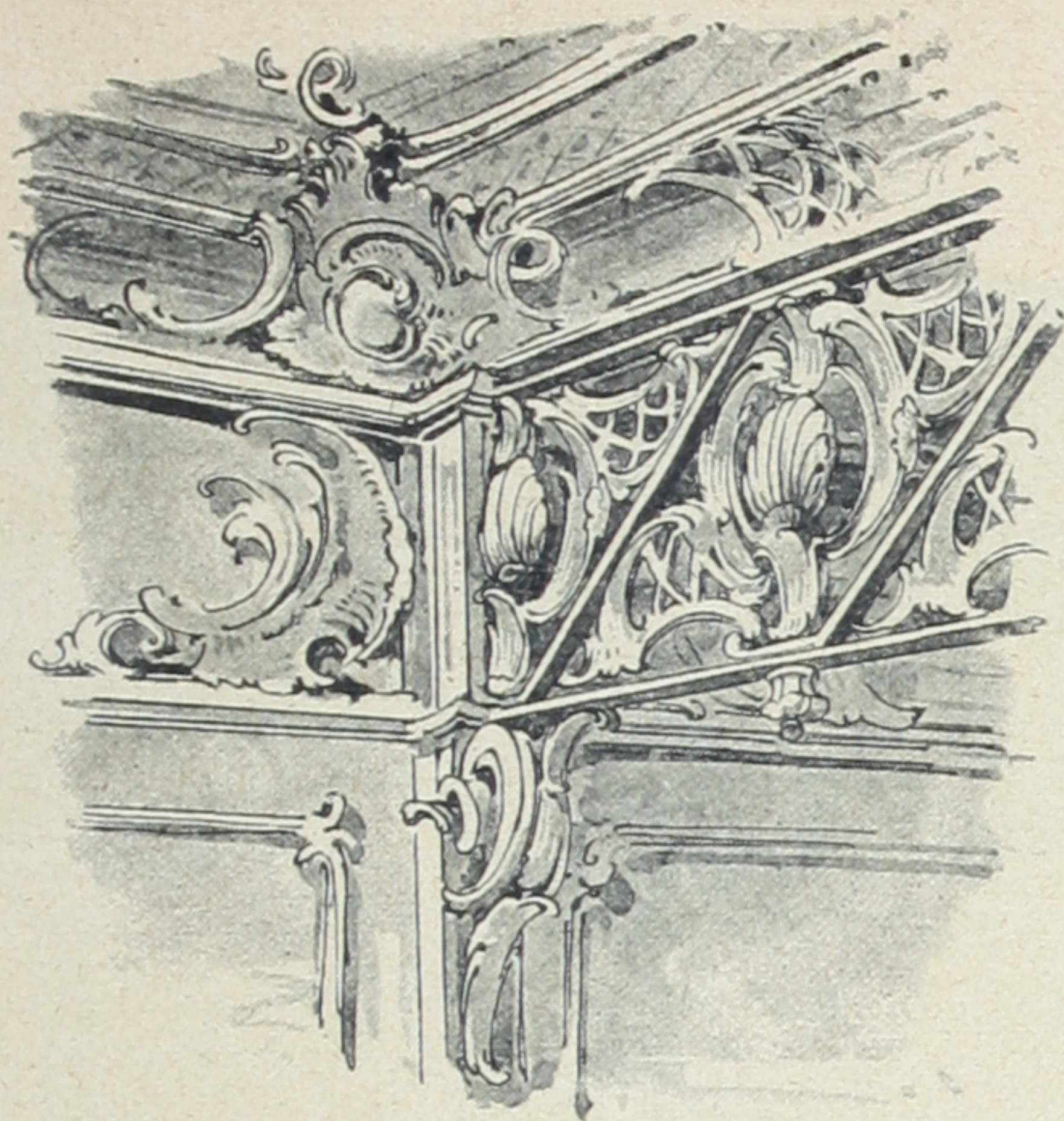


Fig. 31. Ornamental uncovered girder supported by a wall.

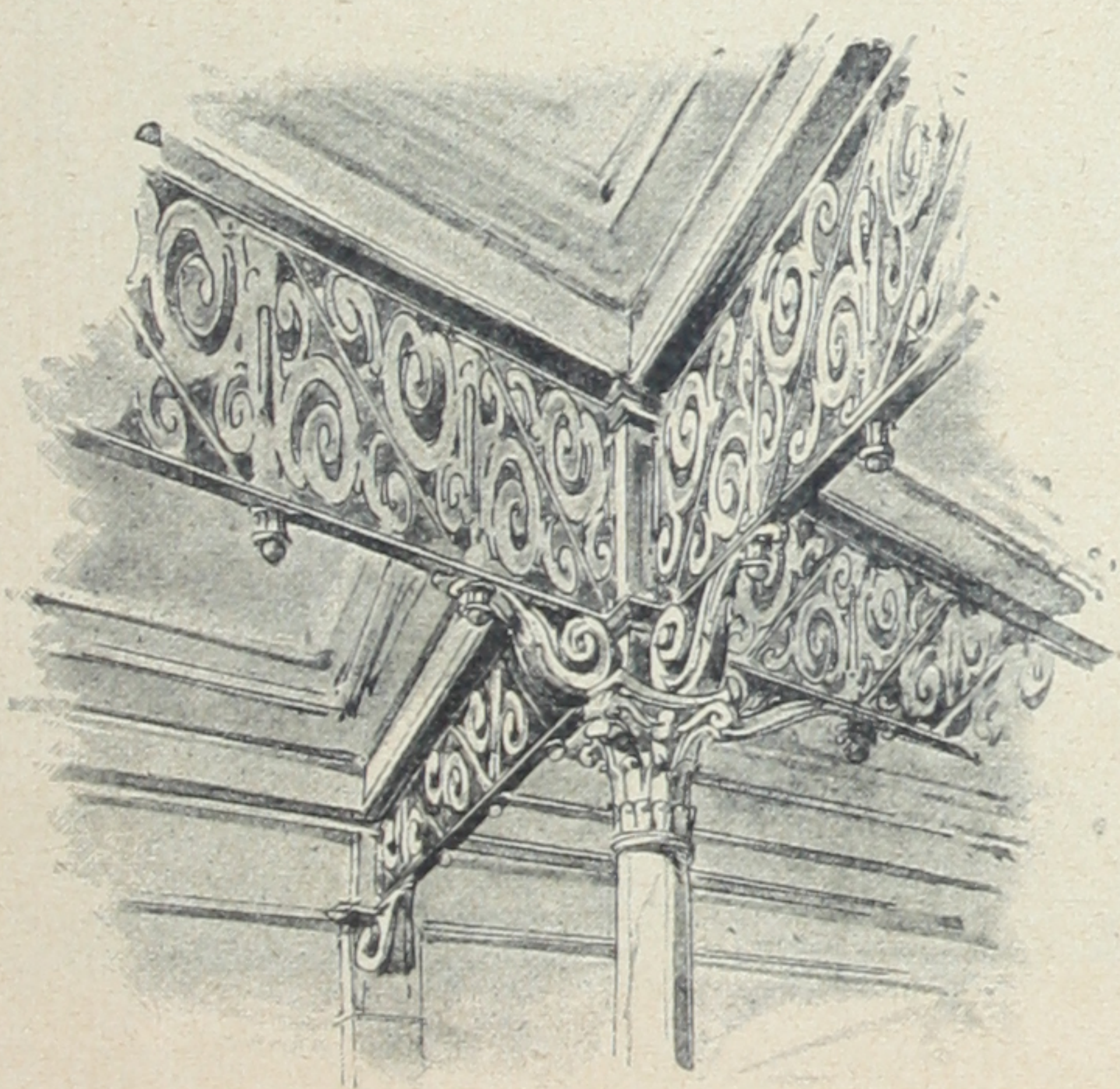


Fig. 32. Ornamental uncovered girders supported on a column.

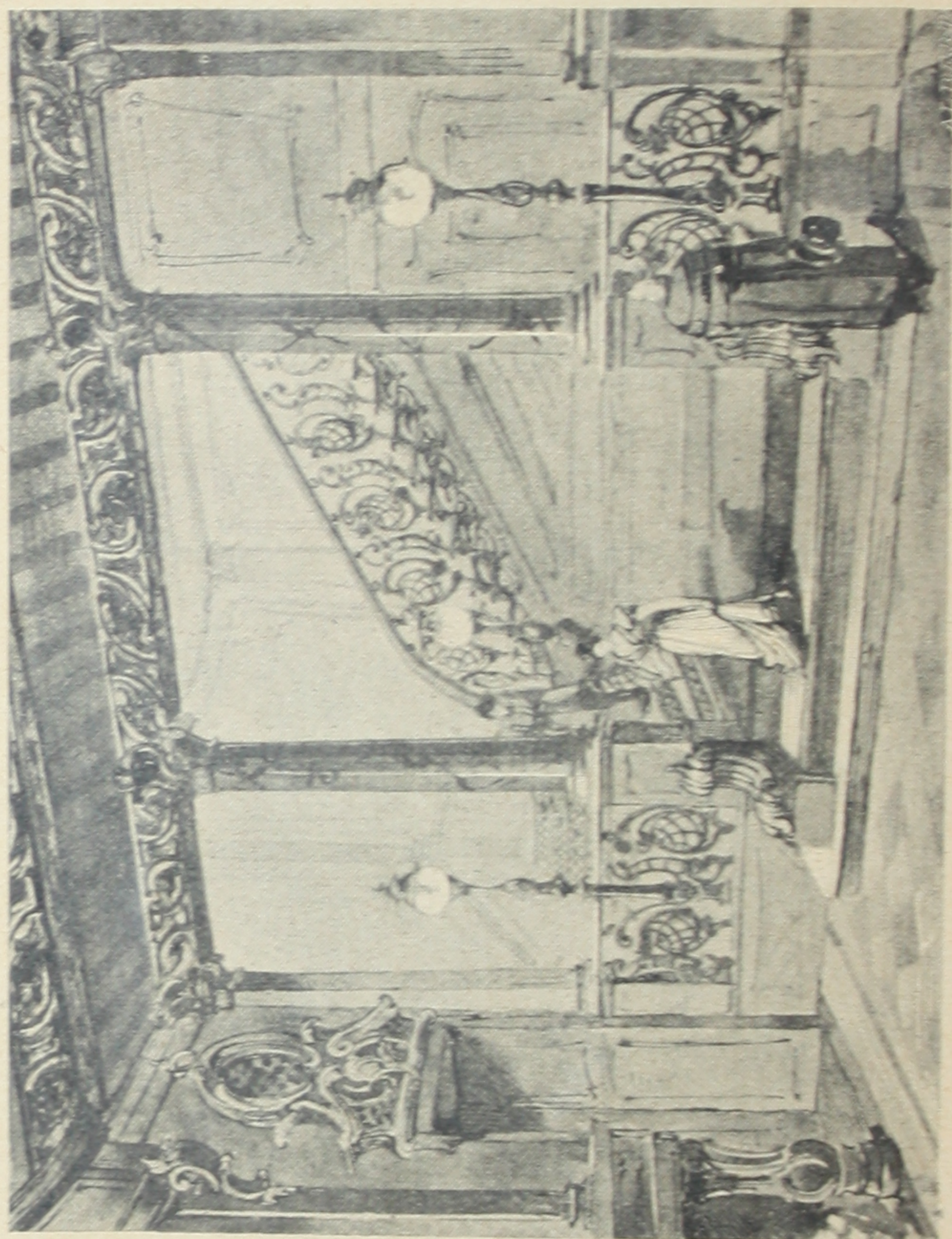


Fig. 33. Joly's patent girders for staircases.



Fig. 34. Joly's patent girders to support a veranda.

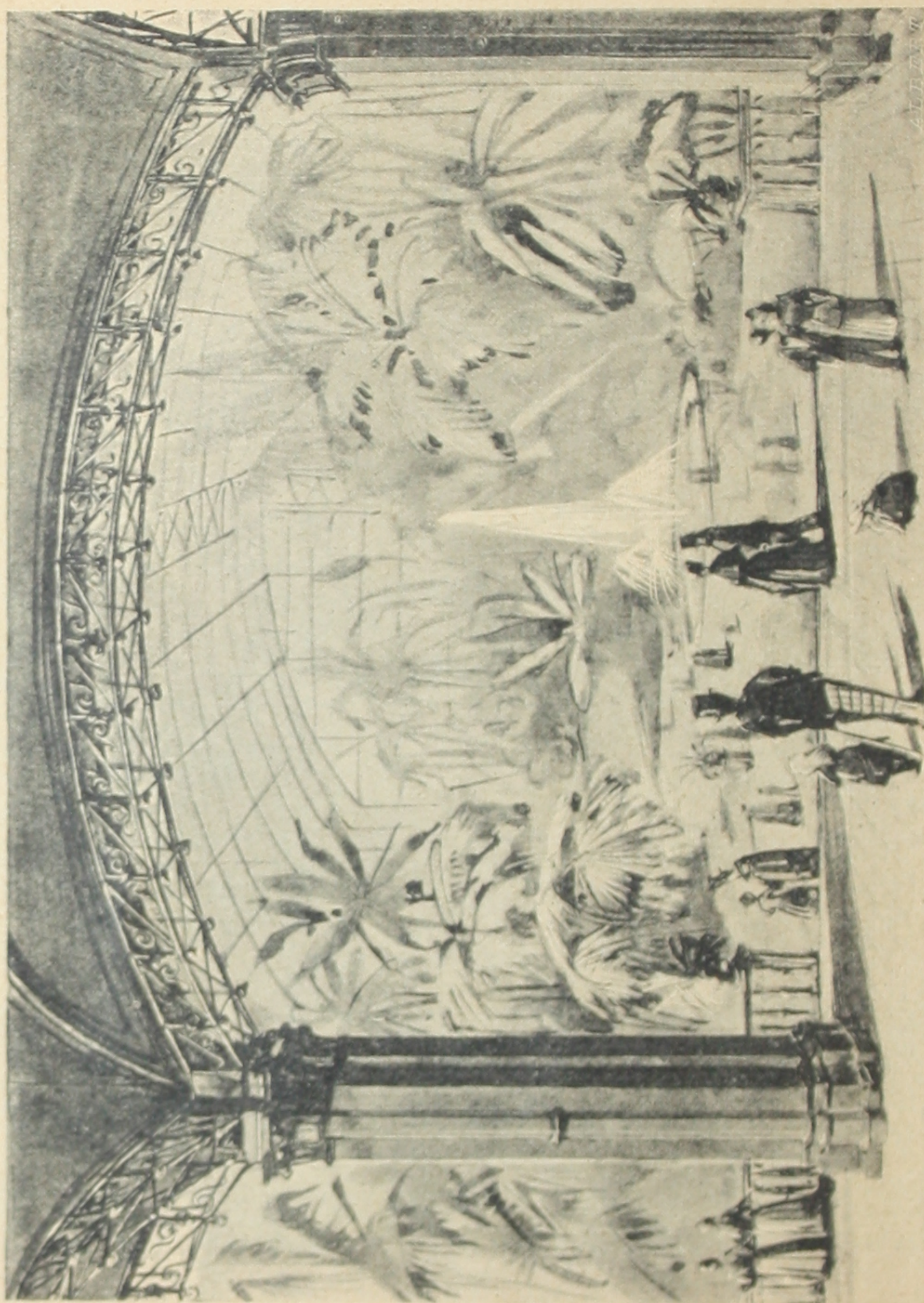


Fig. 35. Joly's patent girders in a winter garden.

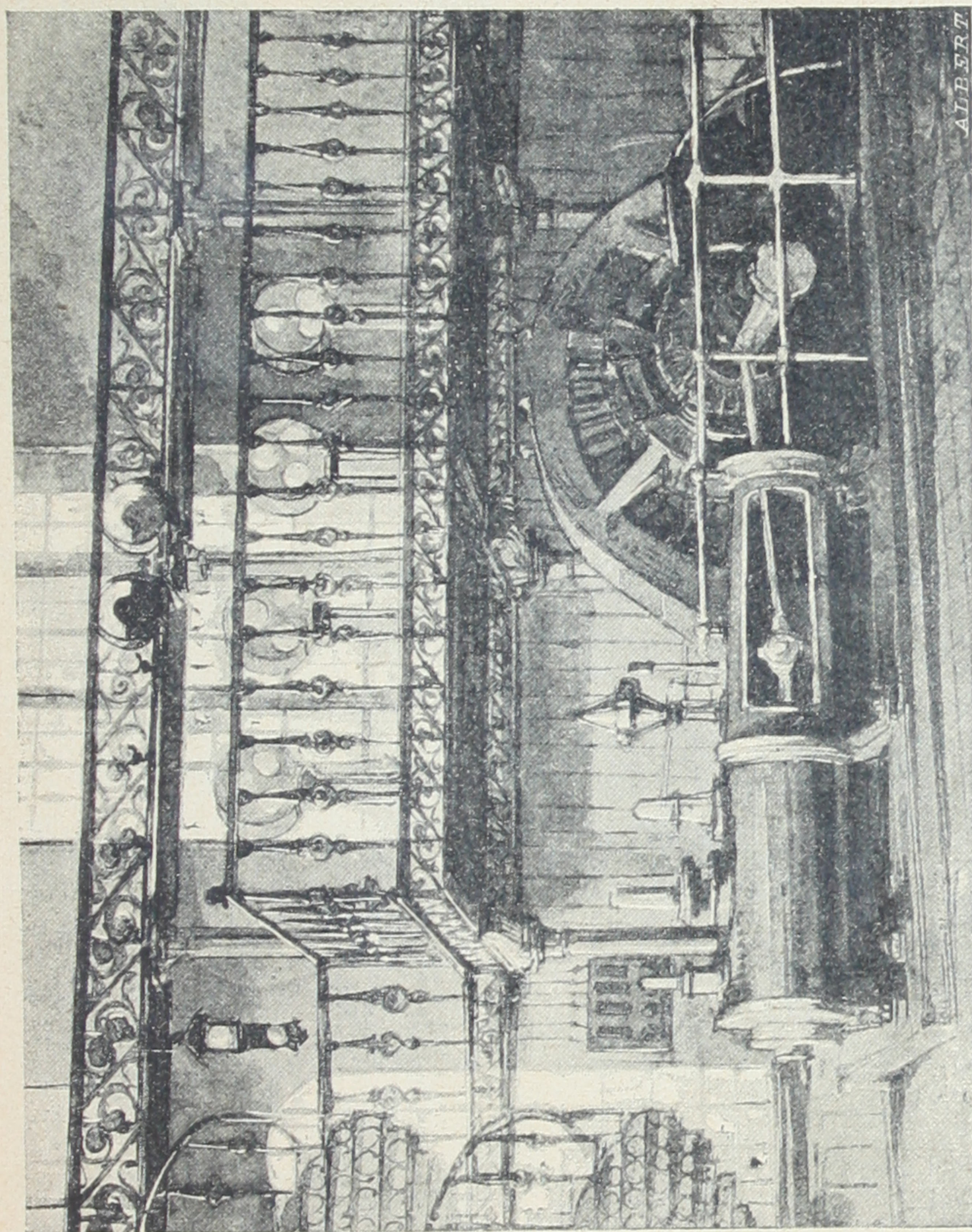


Fig. 36. Joly's patent girders in electrical works.

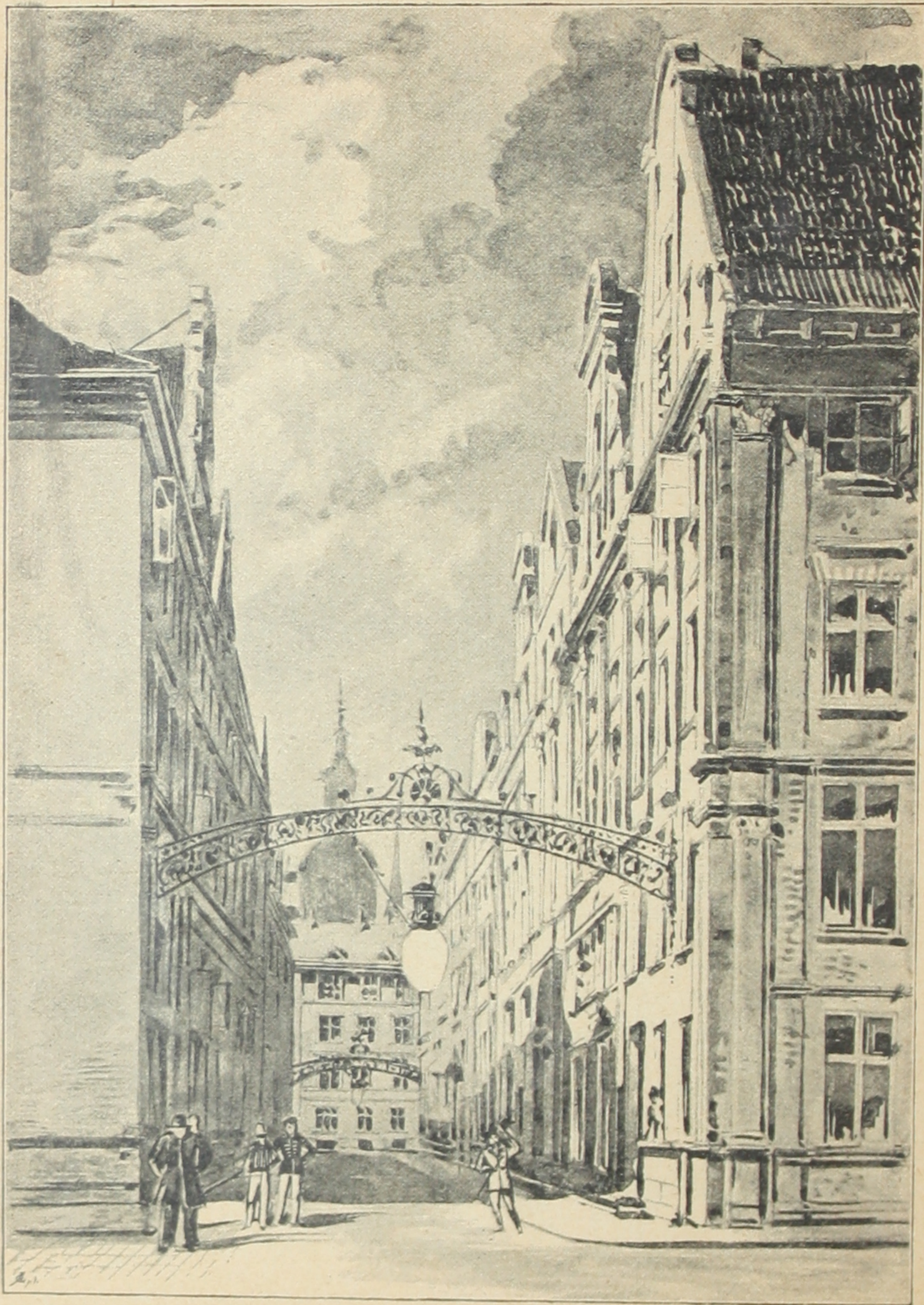


Fig. 37. Joly's patent girder for electric street illumination.

Joly's patent ceilings, roofings and bridges.

The blocks *b* of the girders have brackets *e* cast on them carrying \cap -irons *f* for the support of the ceiling, roofing or bridge

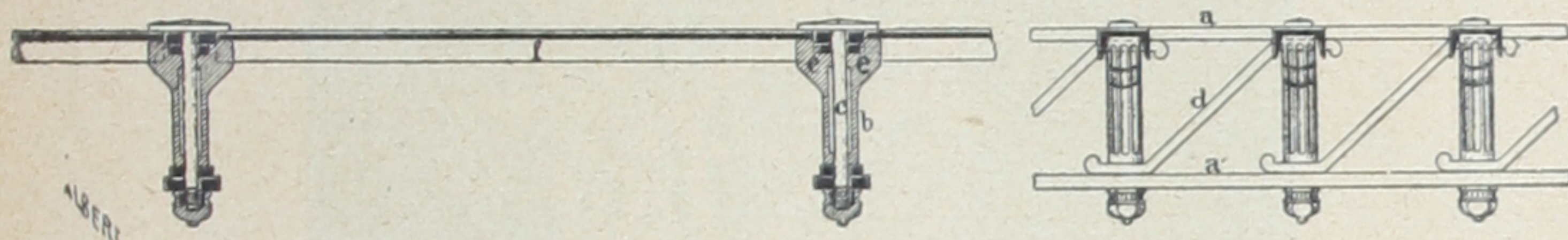


Fig. 38. Substructure of ceilings, roofs, bridges &c.

planking, or road covering. The \cap -irons are held in place, at the top, by lugs on the bolts *c*.

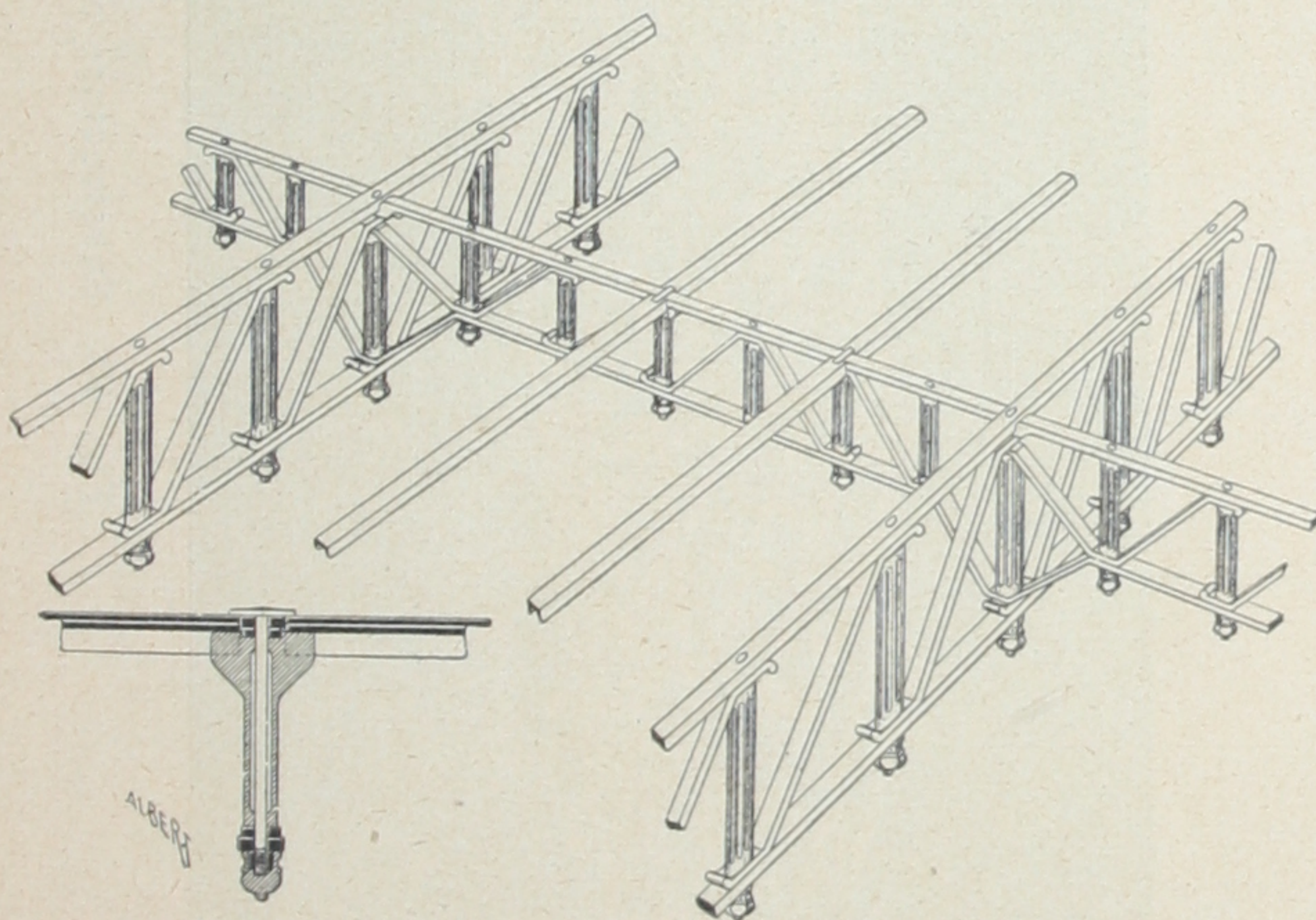


Fig. 39. Substructure of roofs &c.

Fig. 39 shows a construction of this kind with plain girders, fig. 40 the same construction with ornamental girders.

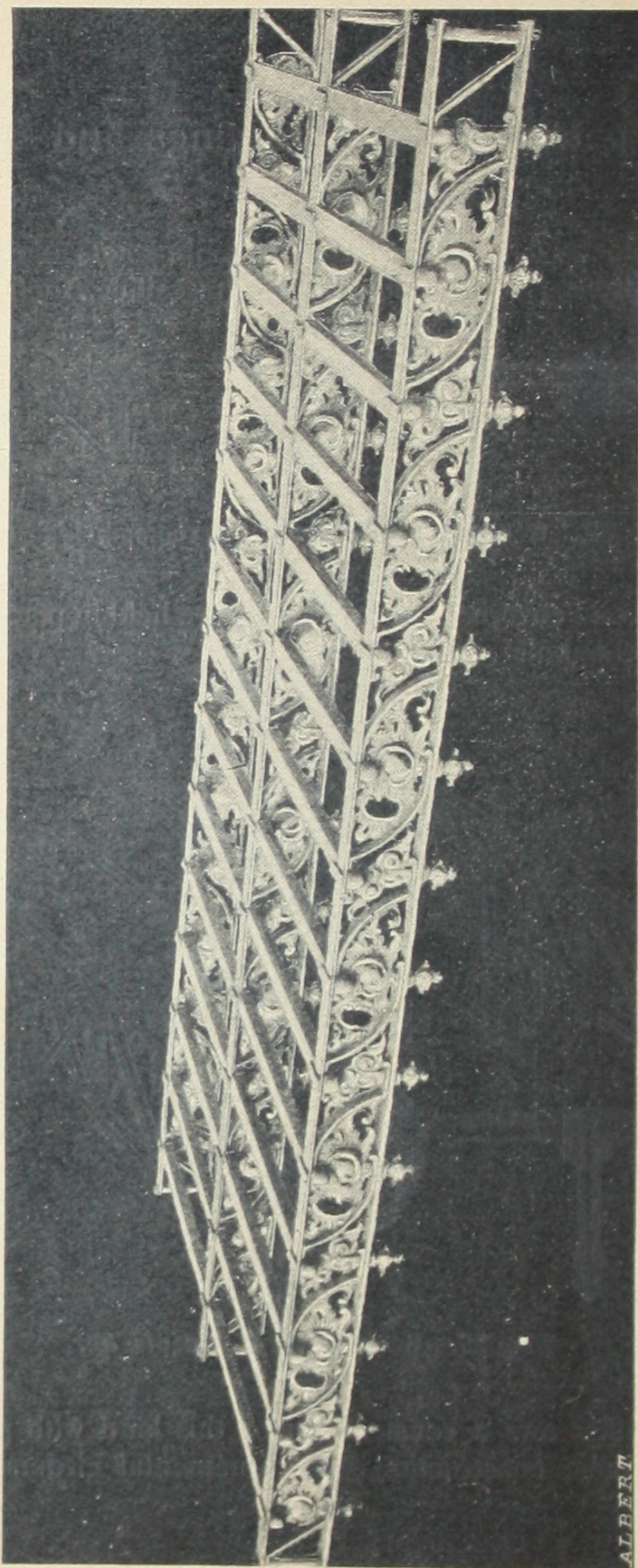


Fig. 40. Substructure of ceilings &c.

ALBERT

For the roofs of railway stations, verandas, &c. (fig. 42. Roof construction) the covering (corrugated iron, boarding with asphalt roof &c.) is attached to the Ω -iron *e* direct (figs. 41 and 42).

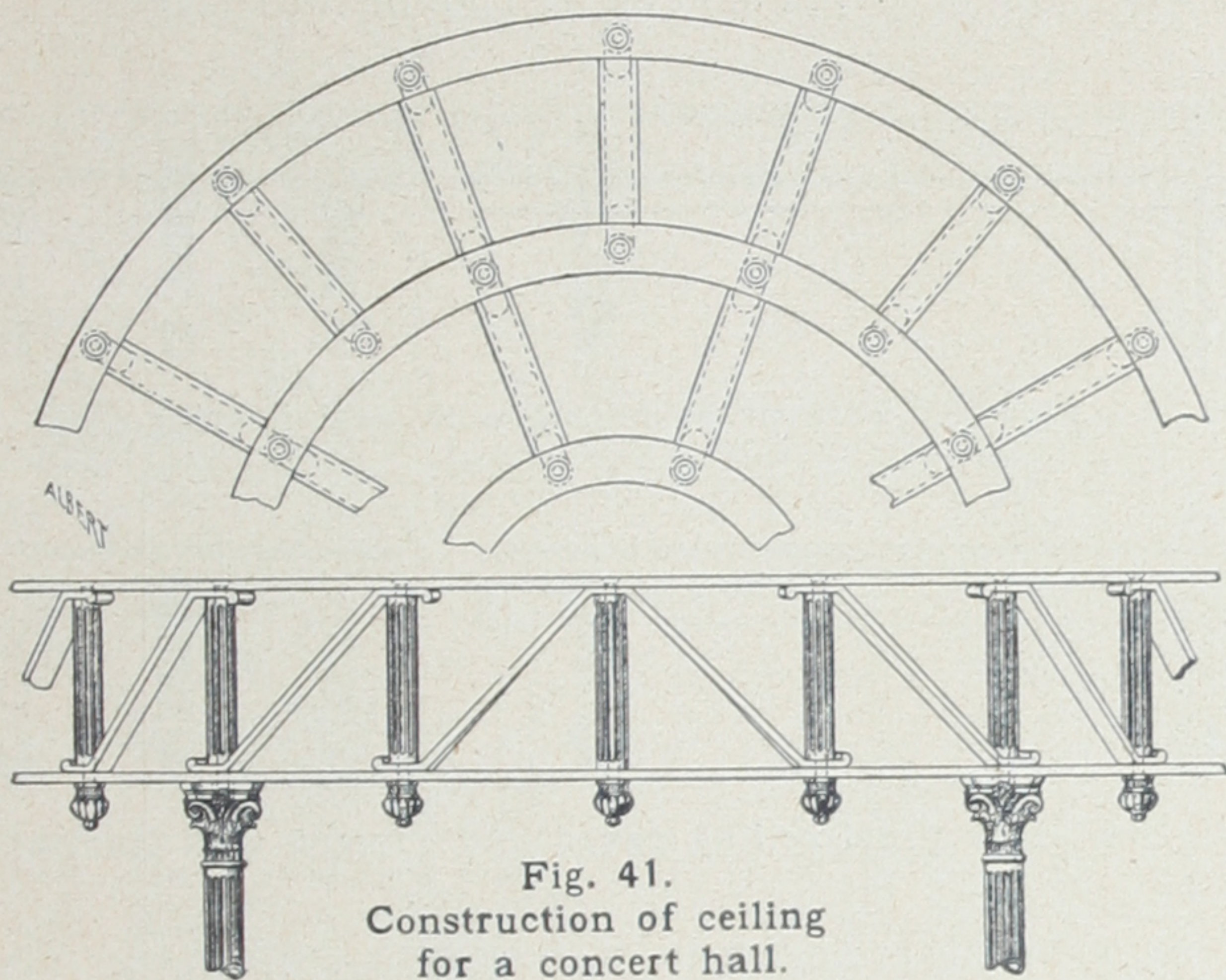


Fig. 41.
Construction of ceiling
for a concert hall.

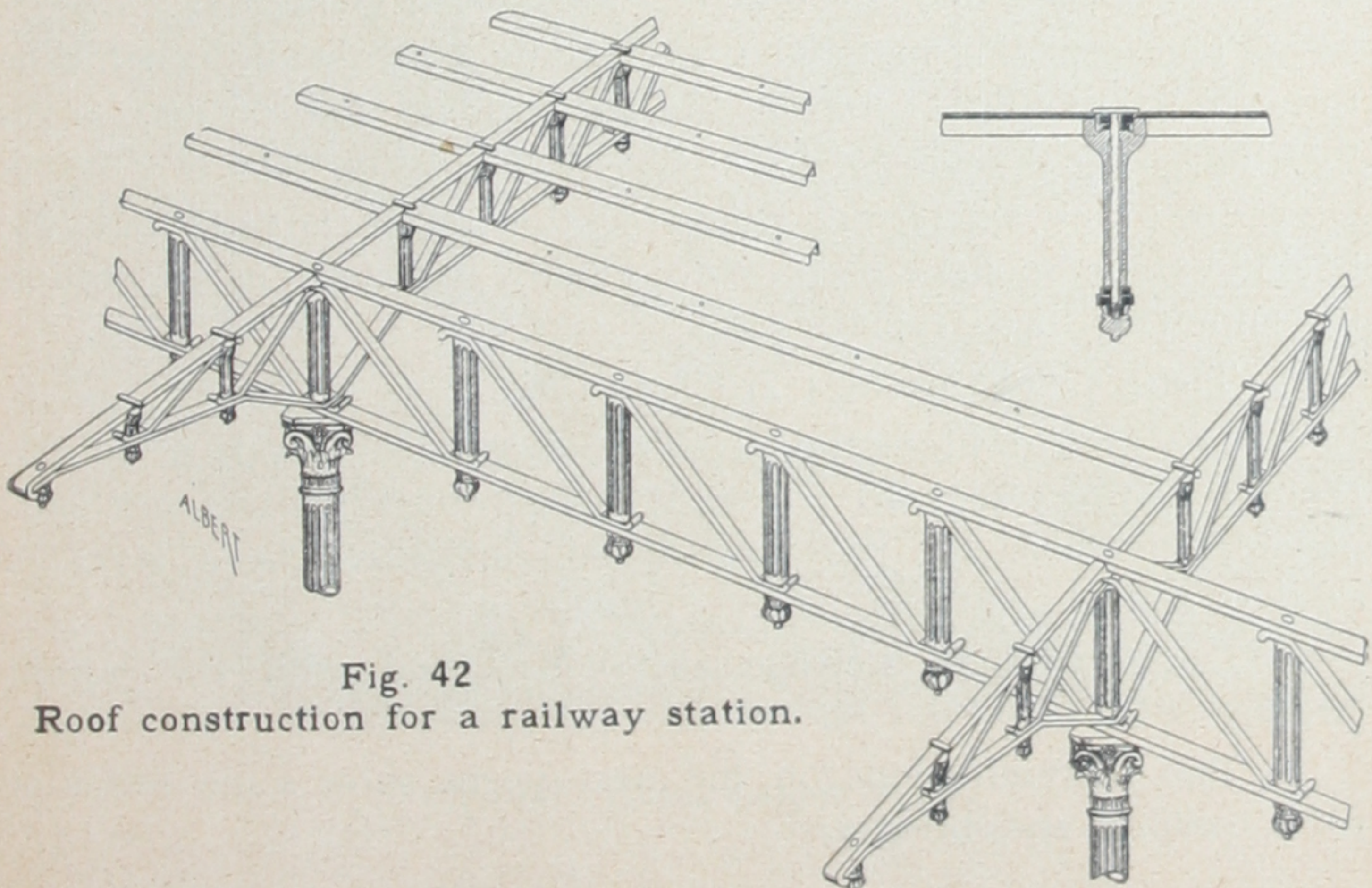


Fig. 42
Roof construction for a railway station.

To form ceilings, plain or corrugated plates are supported in the Ω -irons and filled out with some suitable insulating material such as grit, cinders, &c.

The deal or paved flooring is laid on this layer.

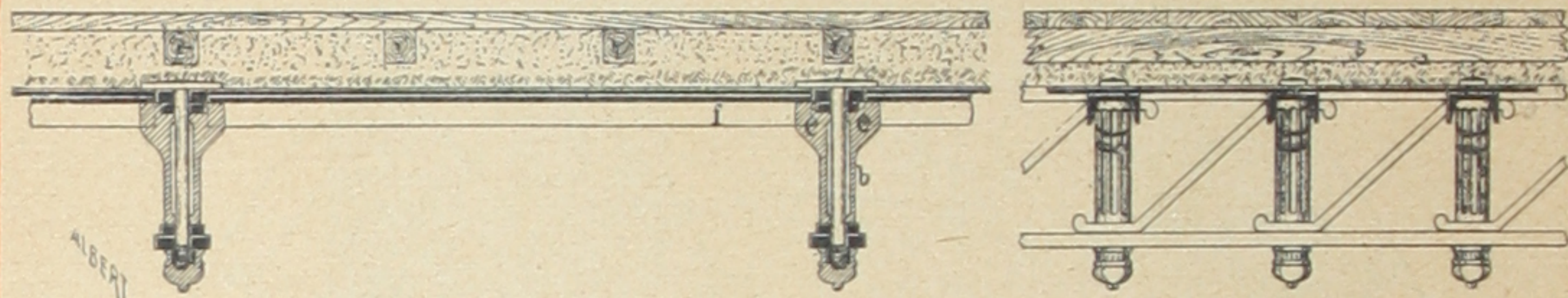


Fig. 43. Fire proof ceiling with deal flooring.

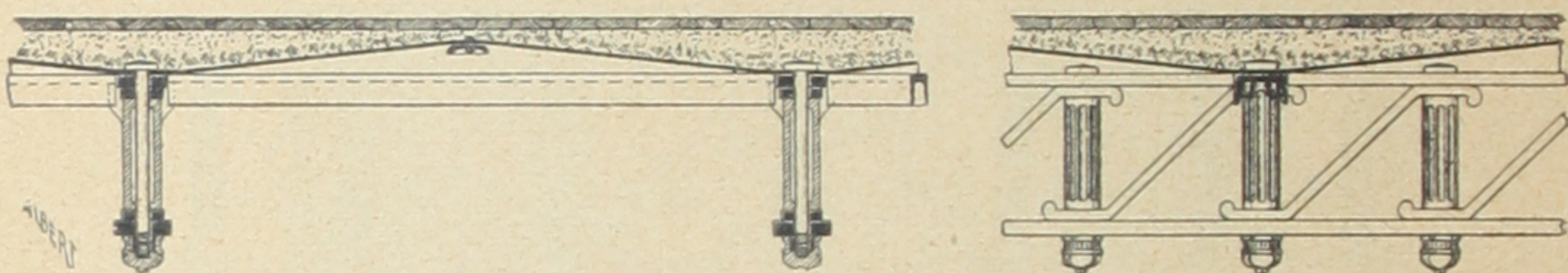


Fig. 44. Fire proof ceiling paved and covered with linoleum.

By an artistic arrangement of rosettes or the like very effective decorative results may be attained with these ceilings.

The insulating material prevents any noise below penetrating through to the floor above. As the ceilings are of very slight thickness, considerable saving in the height of the walls is effected.

In towns where the height of the houses is restricted, the height of the rooms can be considerably increased in proportion by employing these ceilings.

These patent ceilings are fireproof.

For small bridges the planking is either screwed on to the Ω -iron *f* direct (fig. 43 page 44) or galvanised plates are employed, on which the pavement is laid imbedded in a layer of sand or gravel.

Larger bridges are specially constructed with the patent girders.

The representations on the next pages show some forms of roofs, ceilings and bridges.



Fig. 45. Joly's patent bridge.

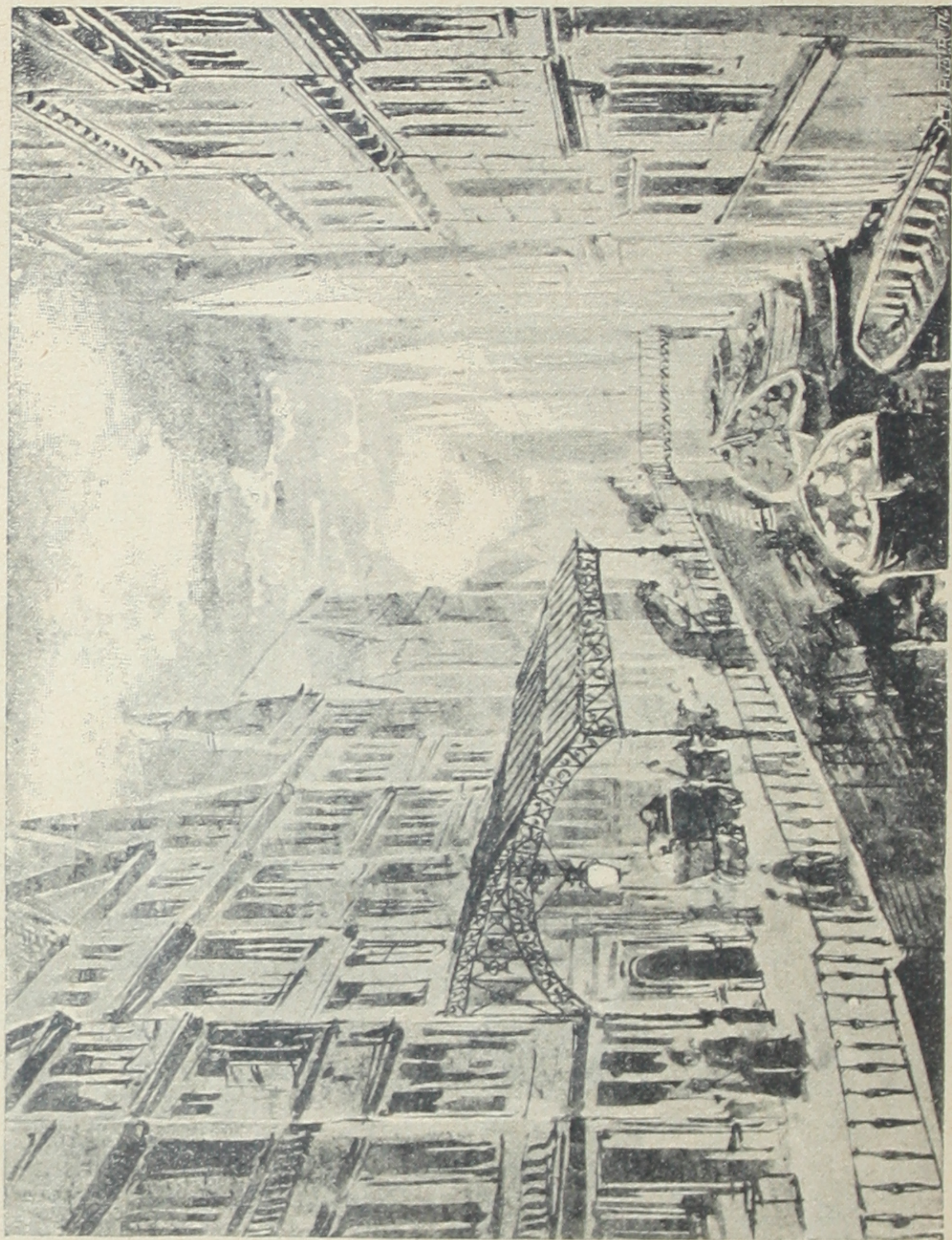


Fig. 46. Joly's patent roof construction for a packing shed.

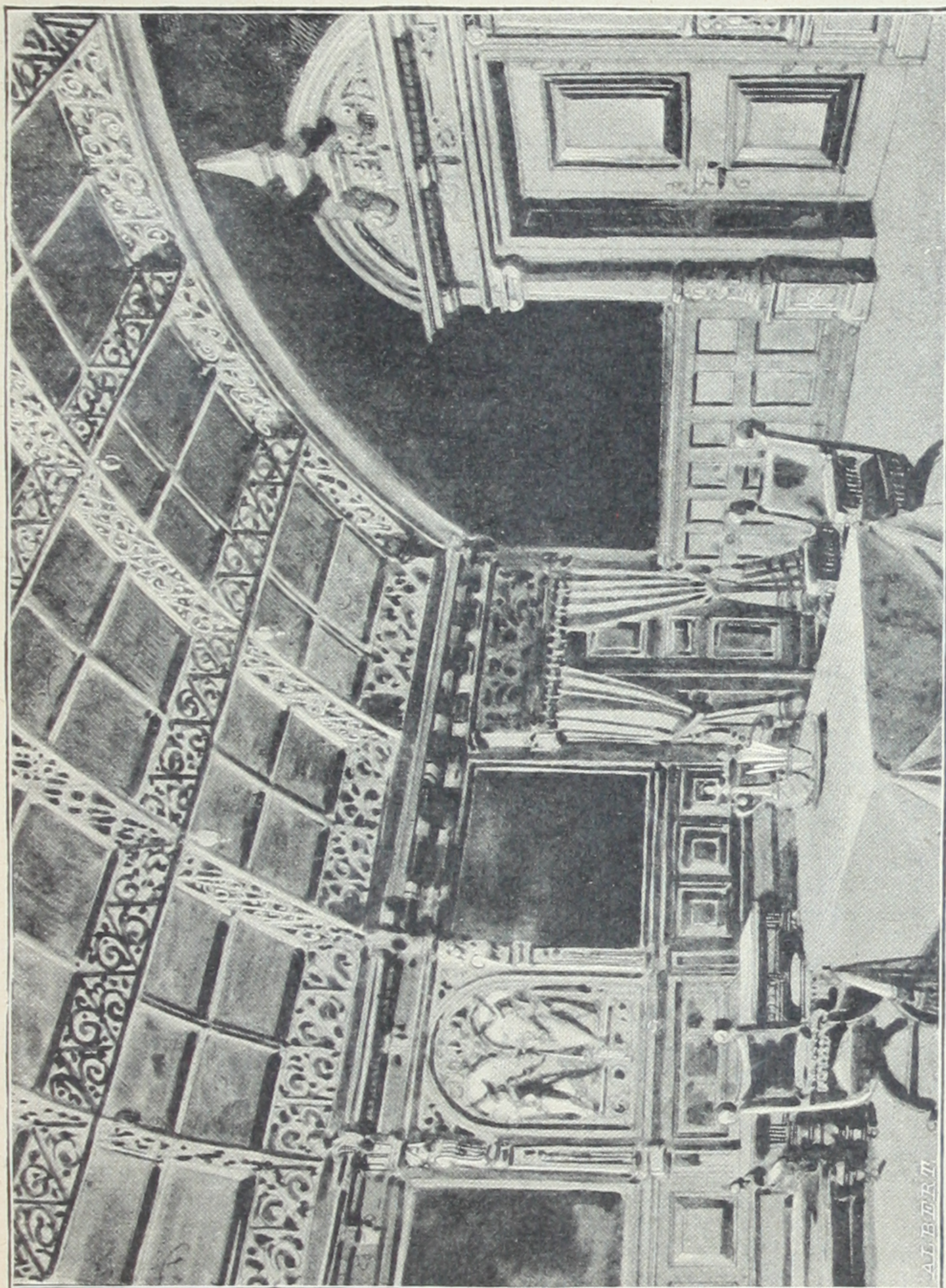


Fig. 47. Joly's patent ceiling construction in a hall.

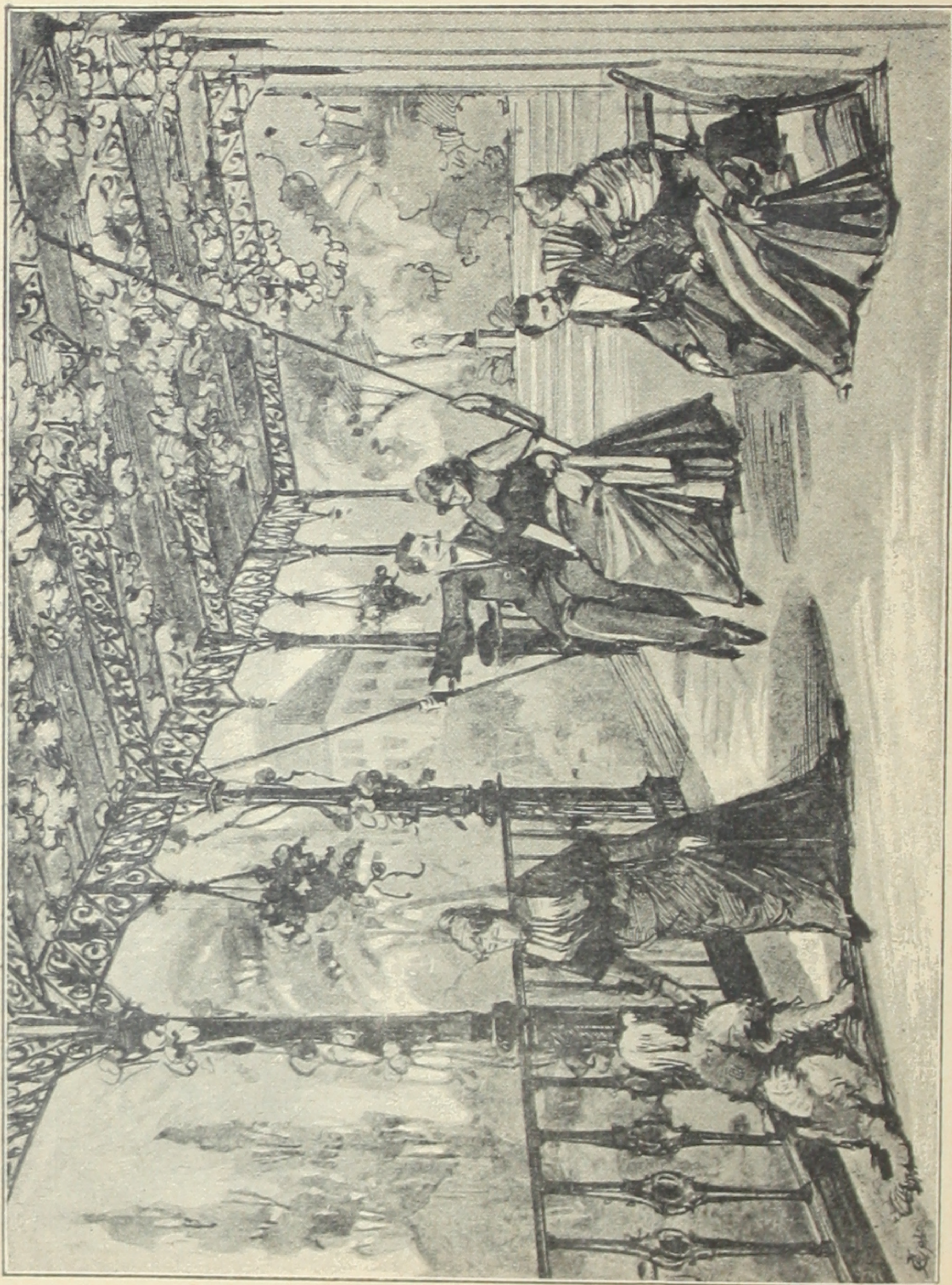


Fig. 48. Joly's patent ceiling construction for a veranda.

Joly's Patent Consols for Balconies, Projectures, Projecting Roofs &c.

consist of rails *a*, *a'*, *a''* &c. (fig. 49), which are held apart by distance blocks *b*. Diagonals or cross ties *d* pass between the

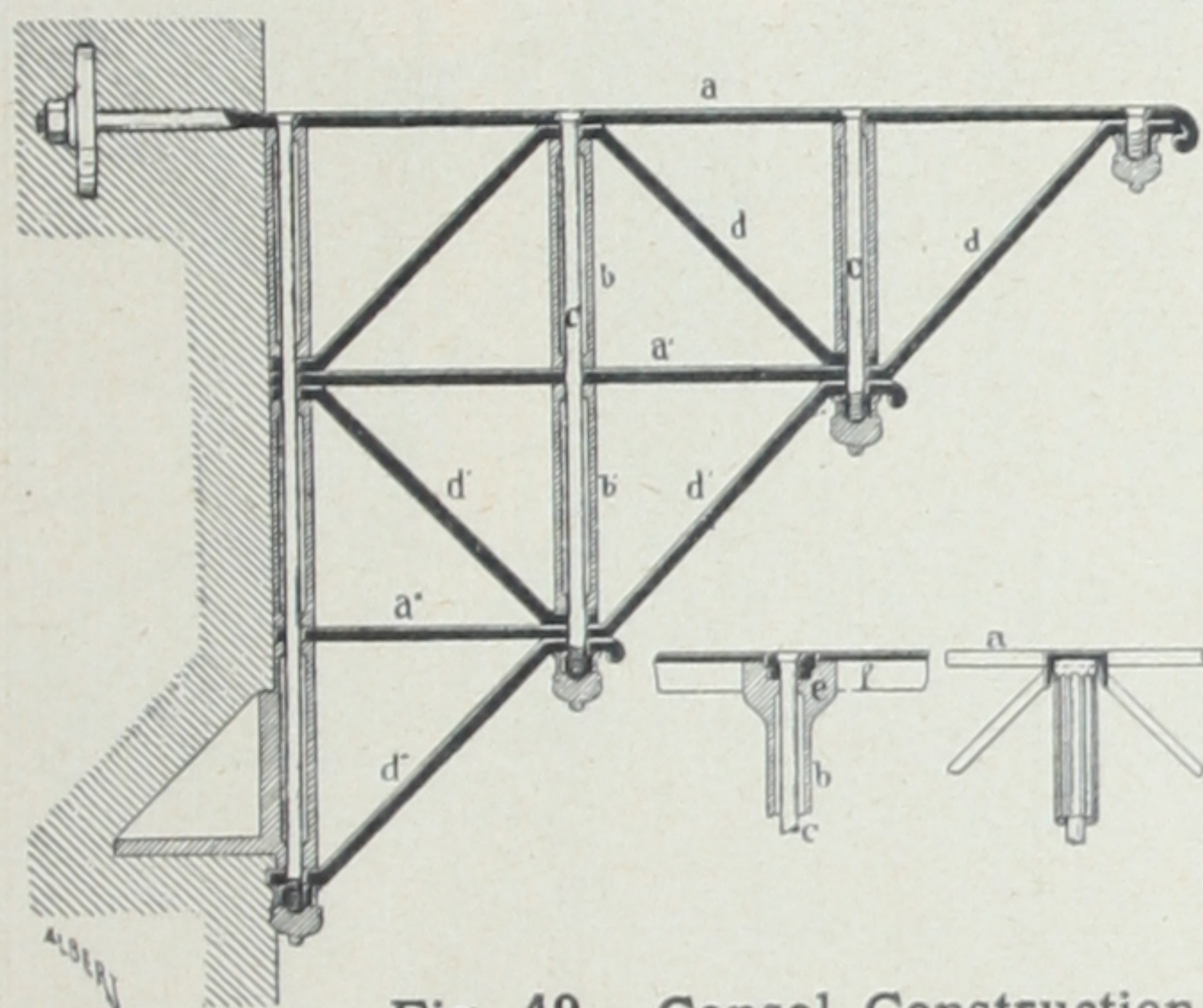


Fig. 49. Consol Construction.

rails and blocks. All parts are held together by bolts *c*. The blocks may consist of ornamental castings and the nuts may be covered by caps. The flooring, which may consist of boarding or stone is supported on \cap irons *e* (fixed in the same manner as shown in Fig. 38).

Figs. 50—52 show some kinds of balconies &c. of the construction referred to.

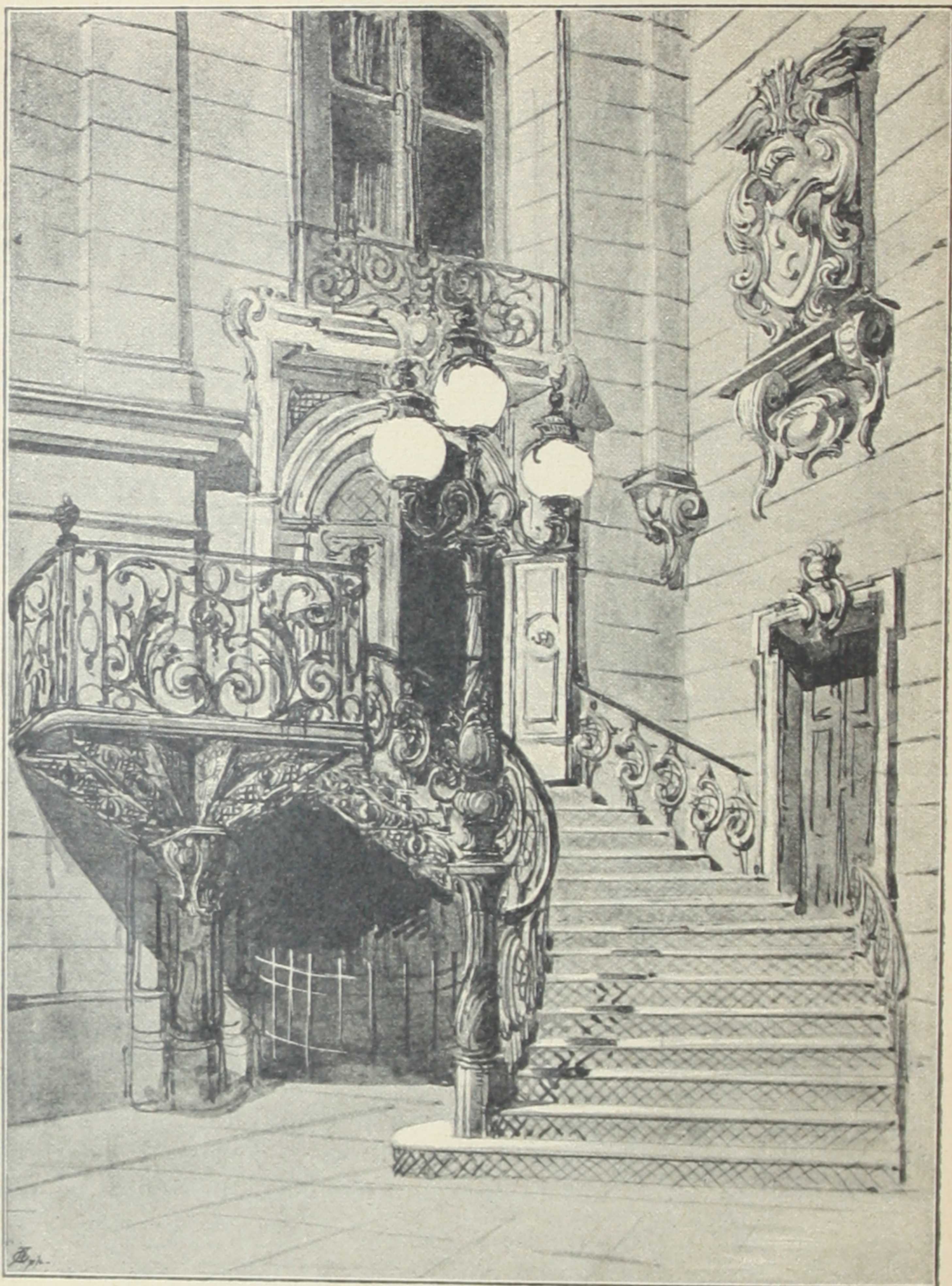


Fig. 50. Joly's patent consol for a balcony.
(The staircase is executed on Joly's patent system — see page 29.)

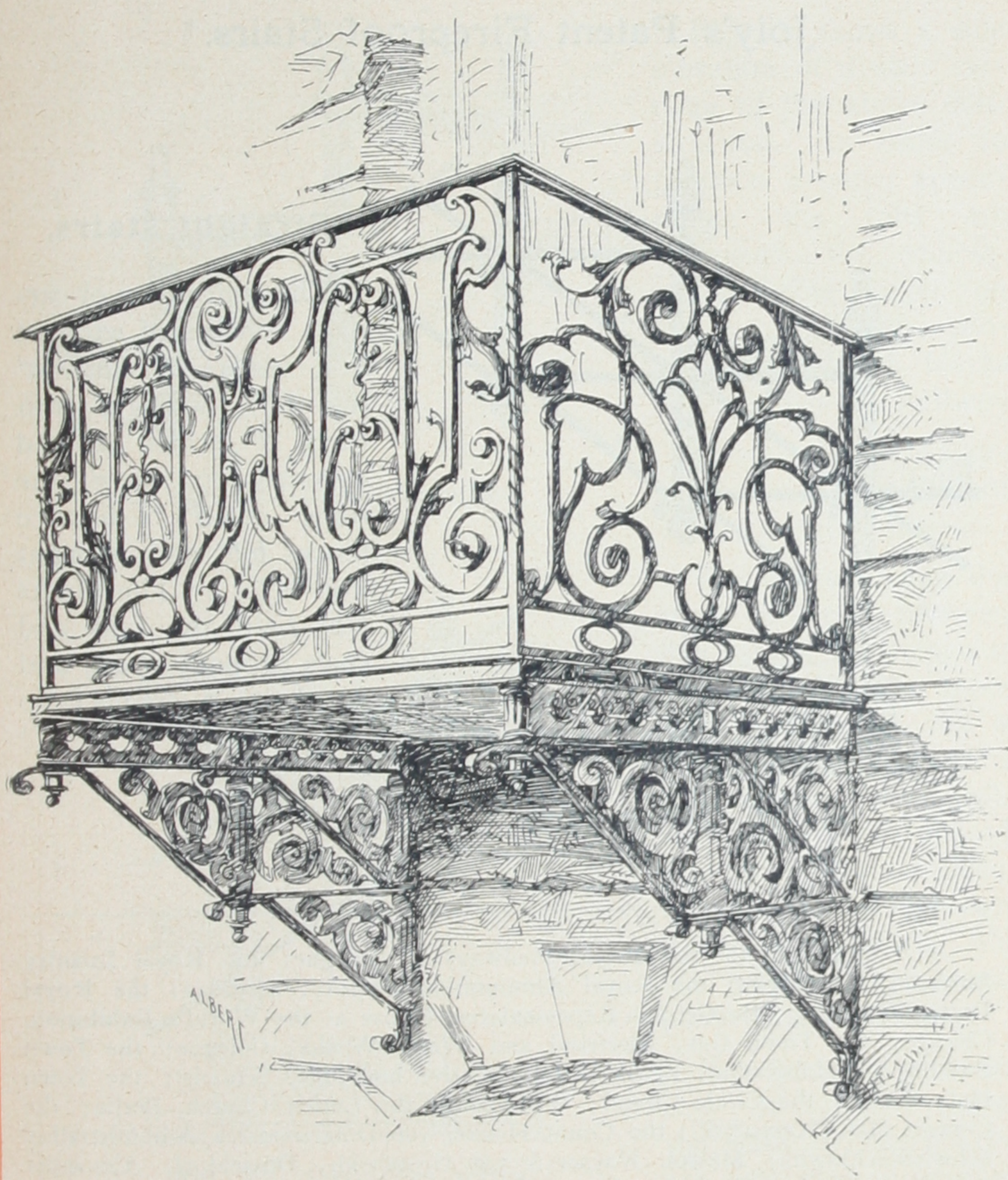
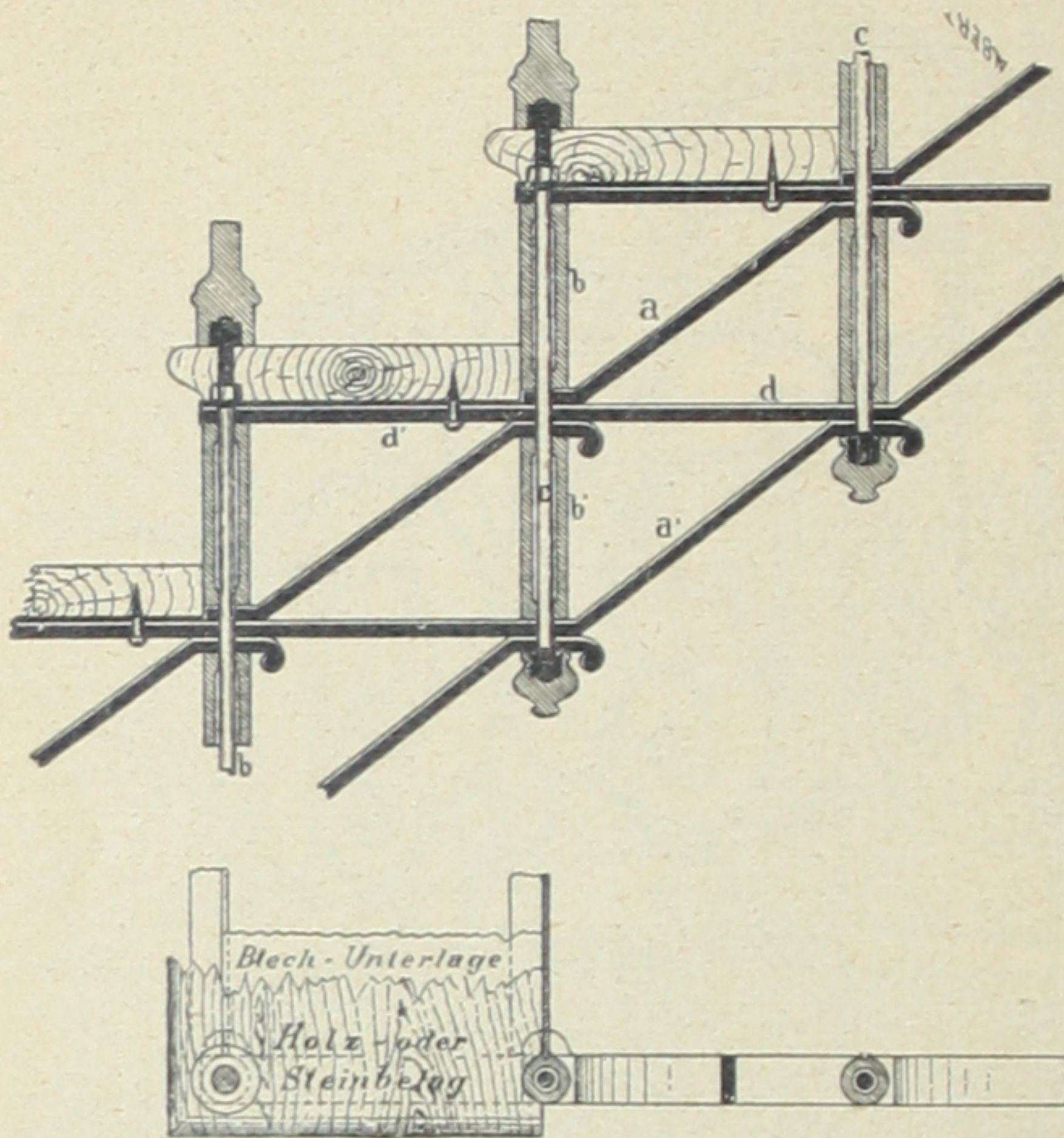


Fig. 52. Joly's patent consols for a balcony.

Joly's Patent Fireproof Stairs.*



Straight stairs.

The stair frame or carriage consists of wrought iron rails *a* and *a'* (fig. 53), wrought iron stays *d* (which extend outward to carry the steps at *d'*), distance blocks *b/b'* and wrought iron bolts *c*. The blocks *b/b'* hold the rails and stays properly apart, and the bolts *c* connect up all the parts.

Fig. 53. Saddled stairs.

* Supplied to the Royal Railways at Cologne; the Royal Infantry Barracks, Hildesheim; the Royal Ammunition Factory, Spandau; the Royal Post, Wittenberg; the German Representative House at the World's Exhibition, Chicago; the Town Gas, Electrical and Water-Works, Cologne; the Town Building Administration, Berlin (Administrative buildings, Schools); the Town Hall, Zerbst; the Castle Church, Wittenberg; the Luther Church, Berlin; the Concert Hall, Remscheid; the Count Henkel von Donnersmarck Administration Schwientochlowitz; Messrs. Kayser & von Grossheim, Düsseldorf; Alexander Schoeller, Jülich; Tüshaus & von Abbema, Düsseldorf; Villa Pintsch, Berchtesgaden; Peter Paul Fuchs, Düsseldorf; R. Wolf, Buckau-Magdeburg; Water tower, Berlin-Lichtenberg; Salt mines Neu-Stassfurt; the Apothecary, Schweidnitzer Strasse, Breslau; Hotel Escherhaus, Wesel; Hotel Jung, Rüdesheim; Trebitz Castle on the Elbe; Castle Alpenquai, Zürich; Army and Navy Stores for East Africa, &c.

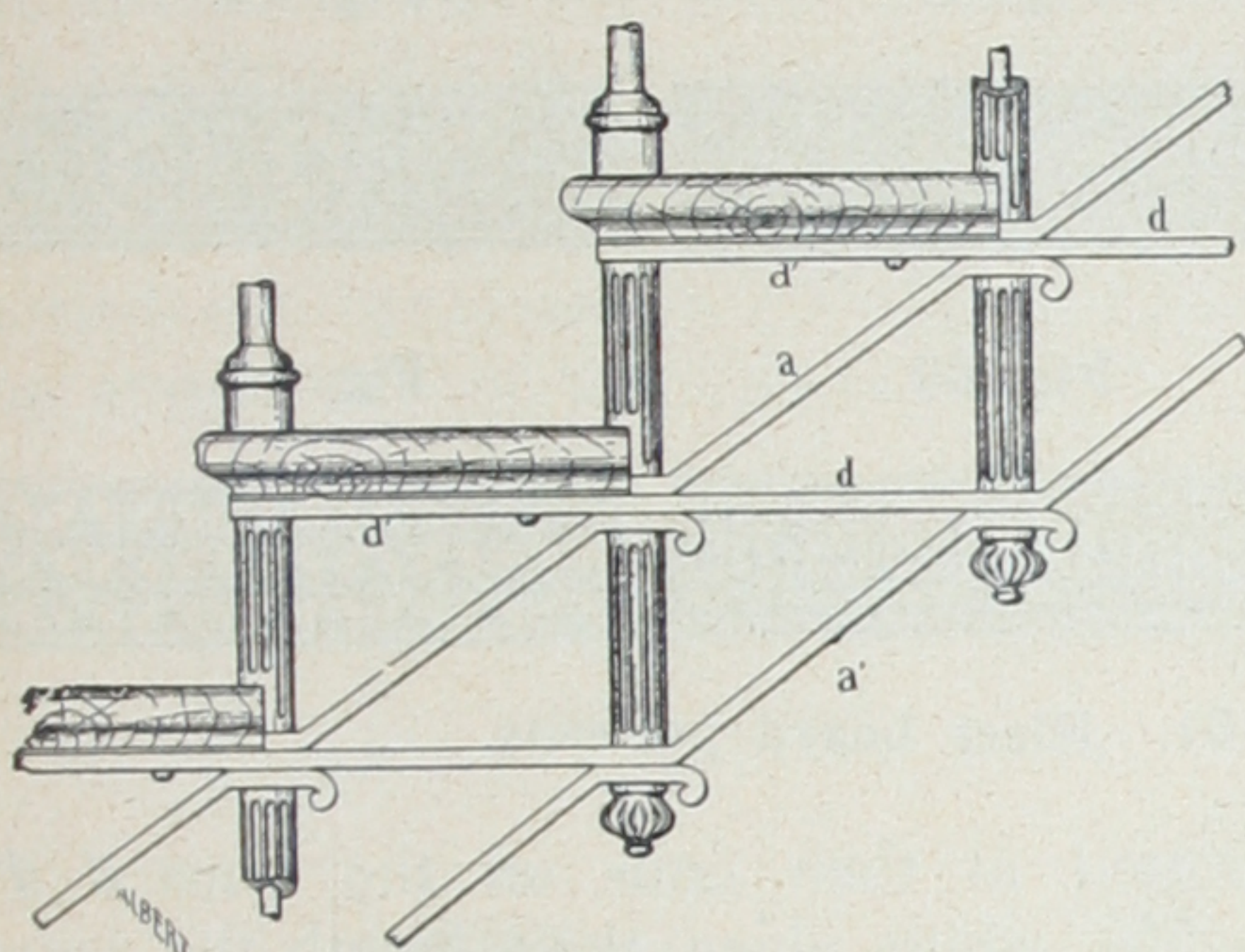


Fig. 54. Saddled stairs.

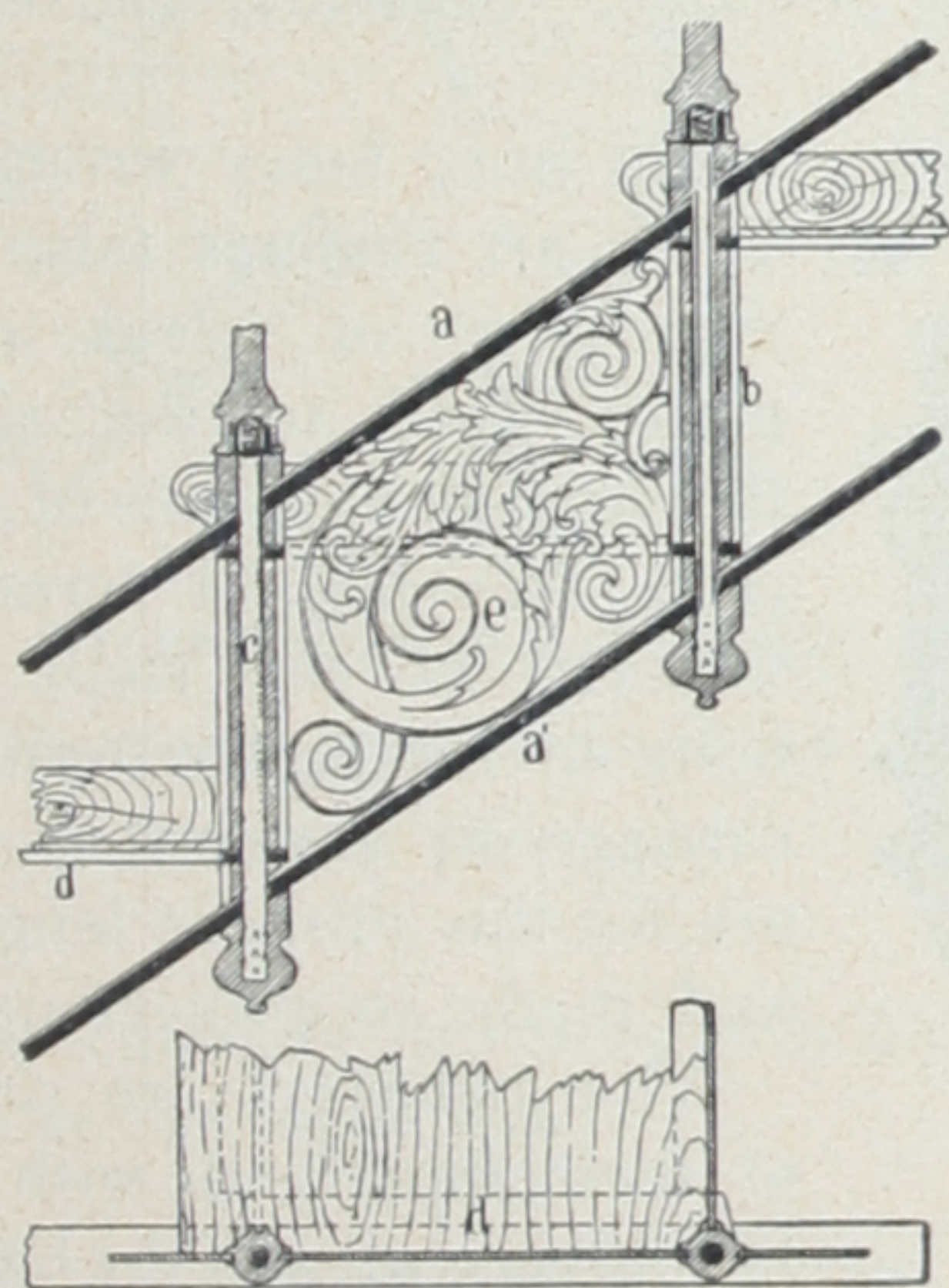


Fig. 55. Carriaged stairs.

Fig. 54 shows a side elevation of a stair carriage of the above construction. In order to produce a better appearance, the rails are embossed, the embossments being forged on the same (legally protected), and the blocks have flutings cast in them.

In very elaborate staircases the blocks consist of ornamental castings.

For stairs having the steps arranged between the frames, the triangular projections on the upper side of the top rail *a* are omitted. In this construction the rails are generally forged throughout in one piece. Lateral grooves are cast in the blocks *b* (fig. 55) in which ornamental plates *e* are arranged.

For carriaged stairs as also for saddled stairs, the slabs or riserboards are supported in grooves of the blocks *b*. These riserboards generally consist of art castings, seldom of sheet metal.

Figs. 56—61 show patterns of riser boards.

Fig. 56.



Fig. 57.



Fig. 58.



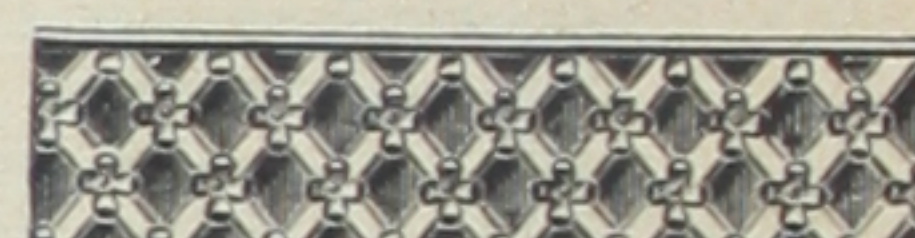
Fig. 59.



Fig. 60.



Fig. 61.



Figs. 56—61. Riser board patterns.

The steps are supported at their ends on the arms *d d'* of the carriages (figs. 53—55), whilst along their length the same are fixed to projections on the riserboards.

The steps themselves may consist of plates covered with wood screwed on to them, or of stone. (Granite, marble-trass, marble, clay slabs, &c.)

The balusters are made of wrought iron, fancy wrought iron

Fig. 62.

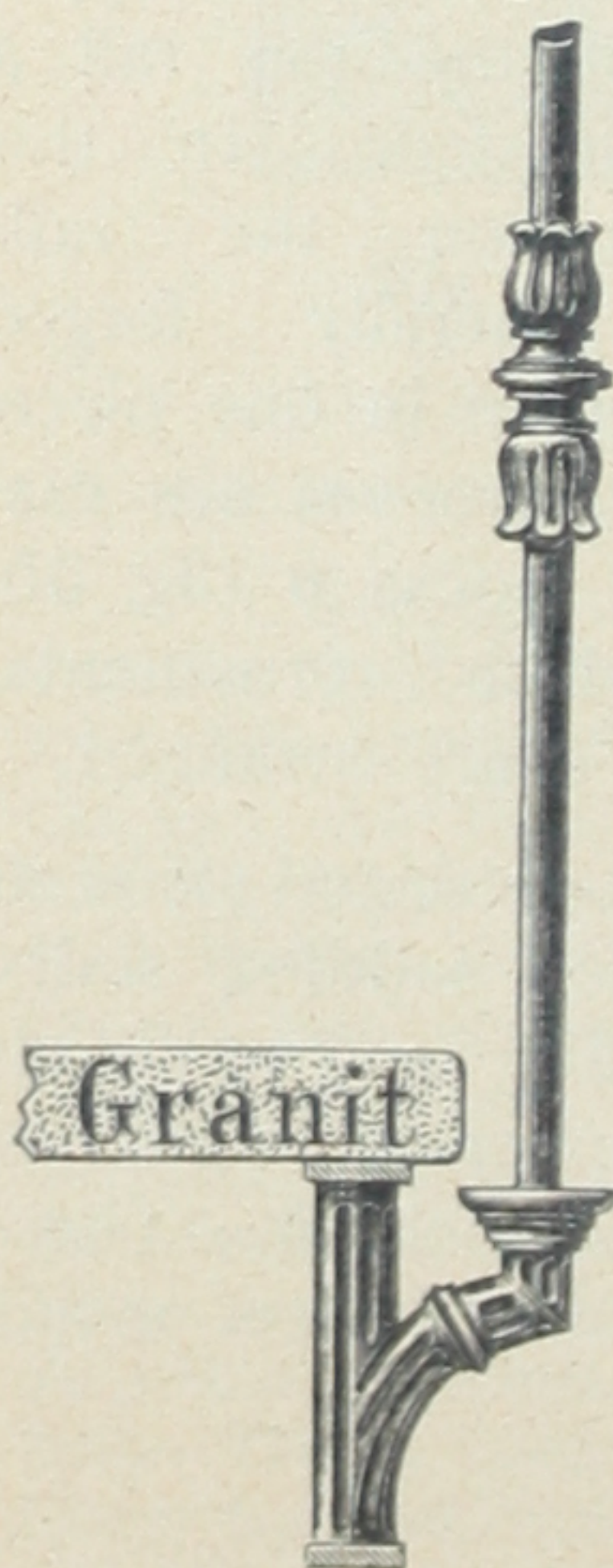
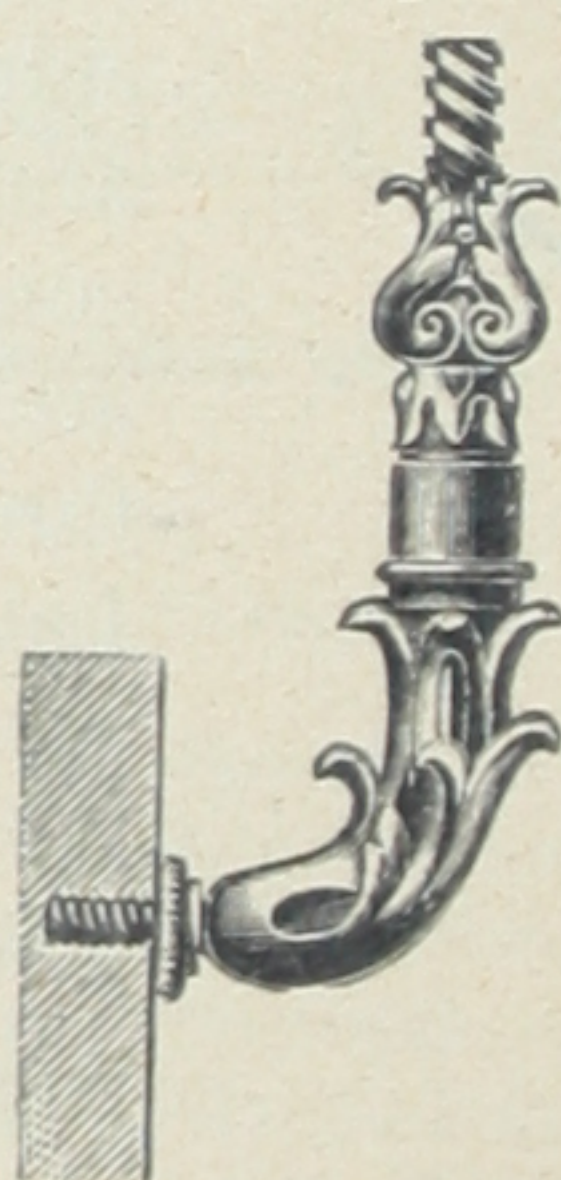


Fig. 63.



work, art castings (also malleable iron) or wood and are either fixed to the sides of the carriage by means of agraffes (Figs. 62—63) or screwed on the top of the steps to the bolts of the girder forming the carriage or framework, which are for this purpose lengthened and made to project upwards.

The balusters are provided at their upper ends with flanges for the reception of the hand rail.

The bottom step is provided with an extra strong newel.

The illustrations on pages 39—49 show various kinds of balusters in wrought iron, fancy wrought iron work, and art castings.

Winding stairs

are executed with the same carriage construction as straight ones. By bending the stays and possibly the intermediate decorations any desired ground plan of the staircase may be attained.

The most complicated design of staircase may be easily carried out by means of this patent construction without rendering the appearance of the framework stiff.

Figs. 64 and 65 show ground plans of some of these staircases.

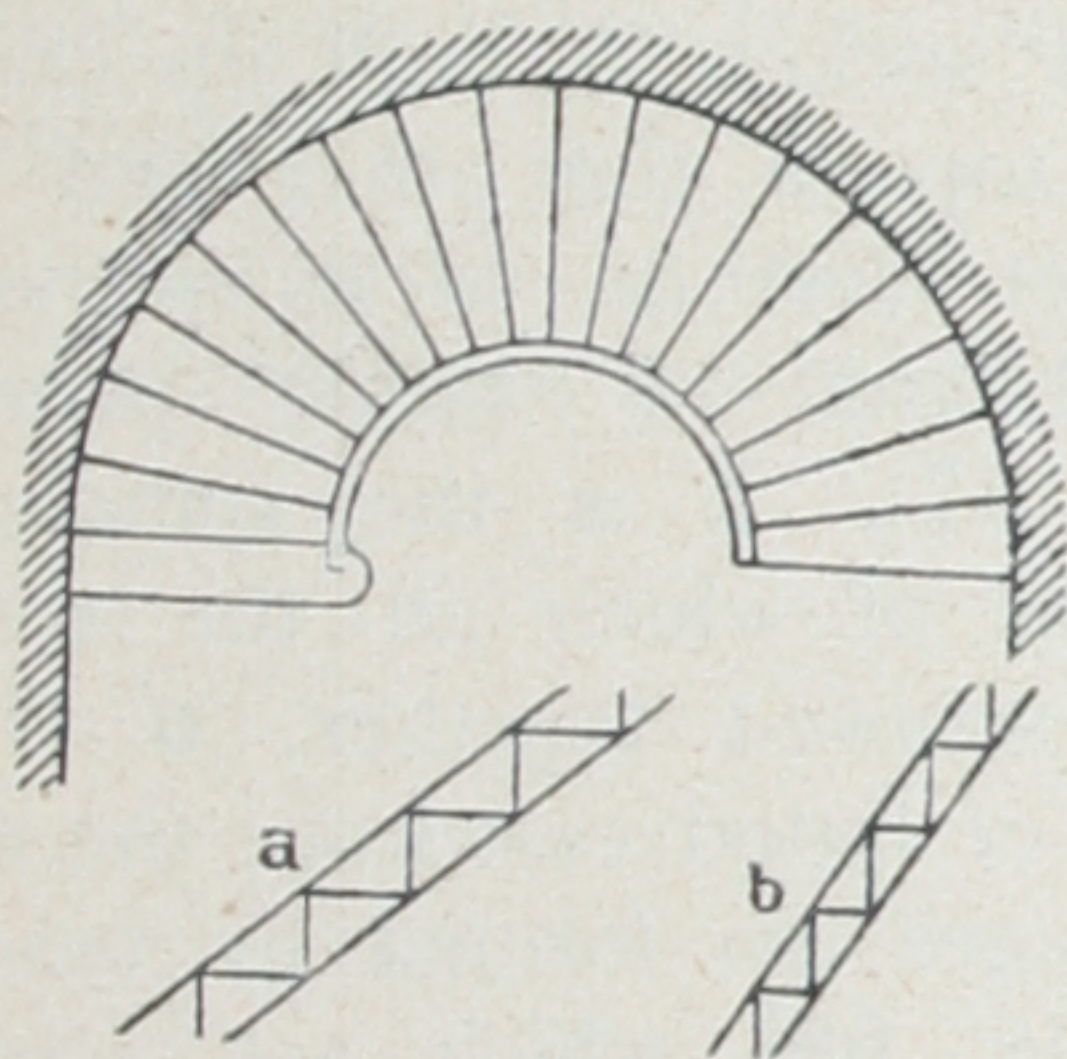


Fig. 64. Ground plan of a winding staircase, *a* is the wall frame, *b* the inner frame or carriage.

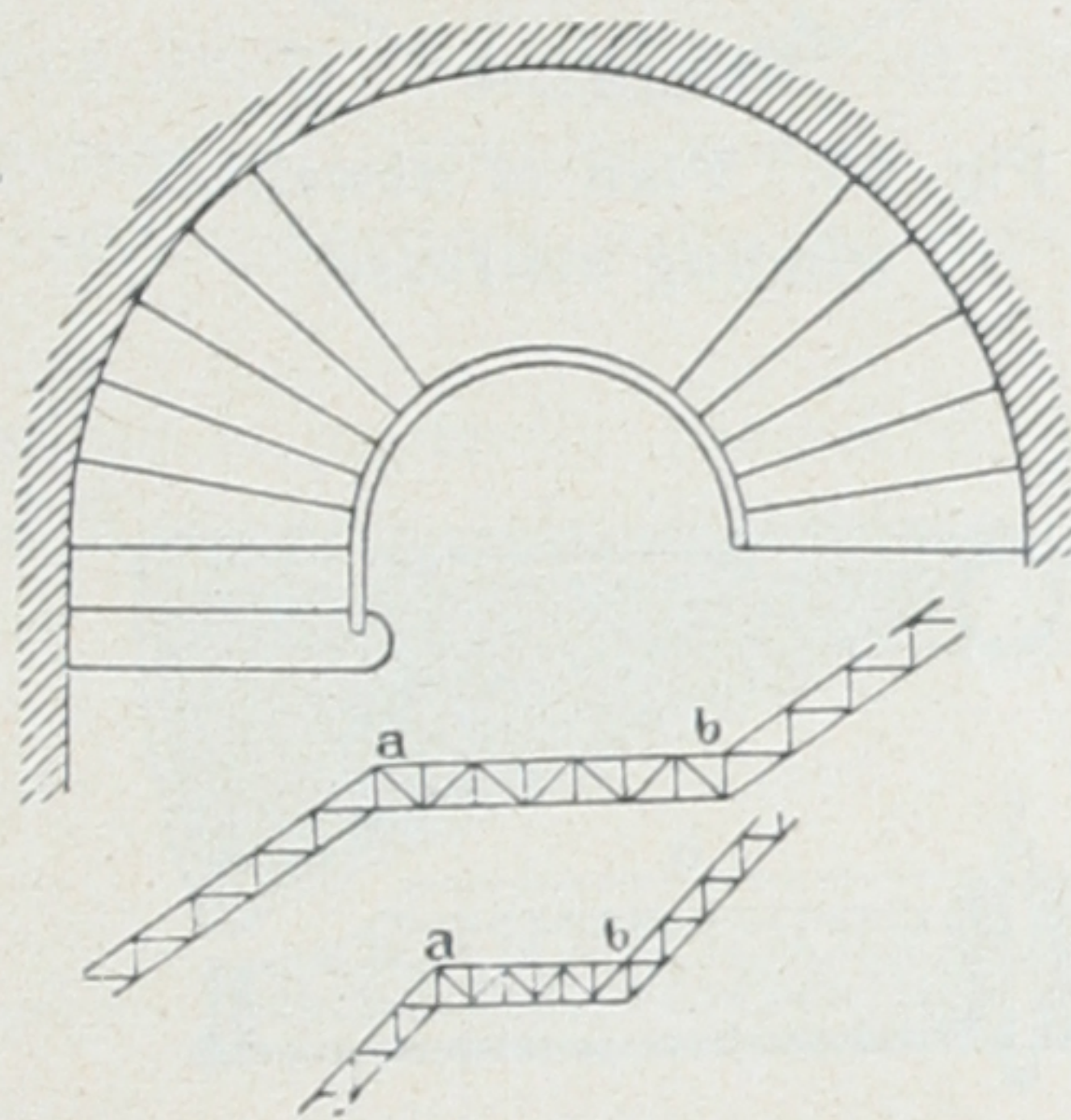


Fig. 65. Ground plan of a winding staircase with intermediate landing and landing girder.

By carefully designing winding stairs very beautiful decorative effects can be obtained.

Back stairs or stairs for the direct connection of two rooms situated one above the other are often executed as

Newelled winding stairs.

The outer carriage is constructed according to the above described patent arrangement, the steps being of wood with or without

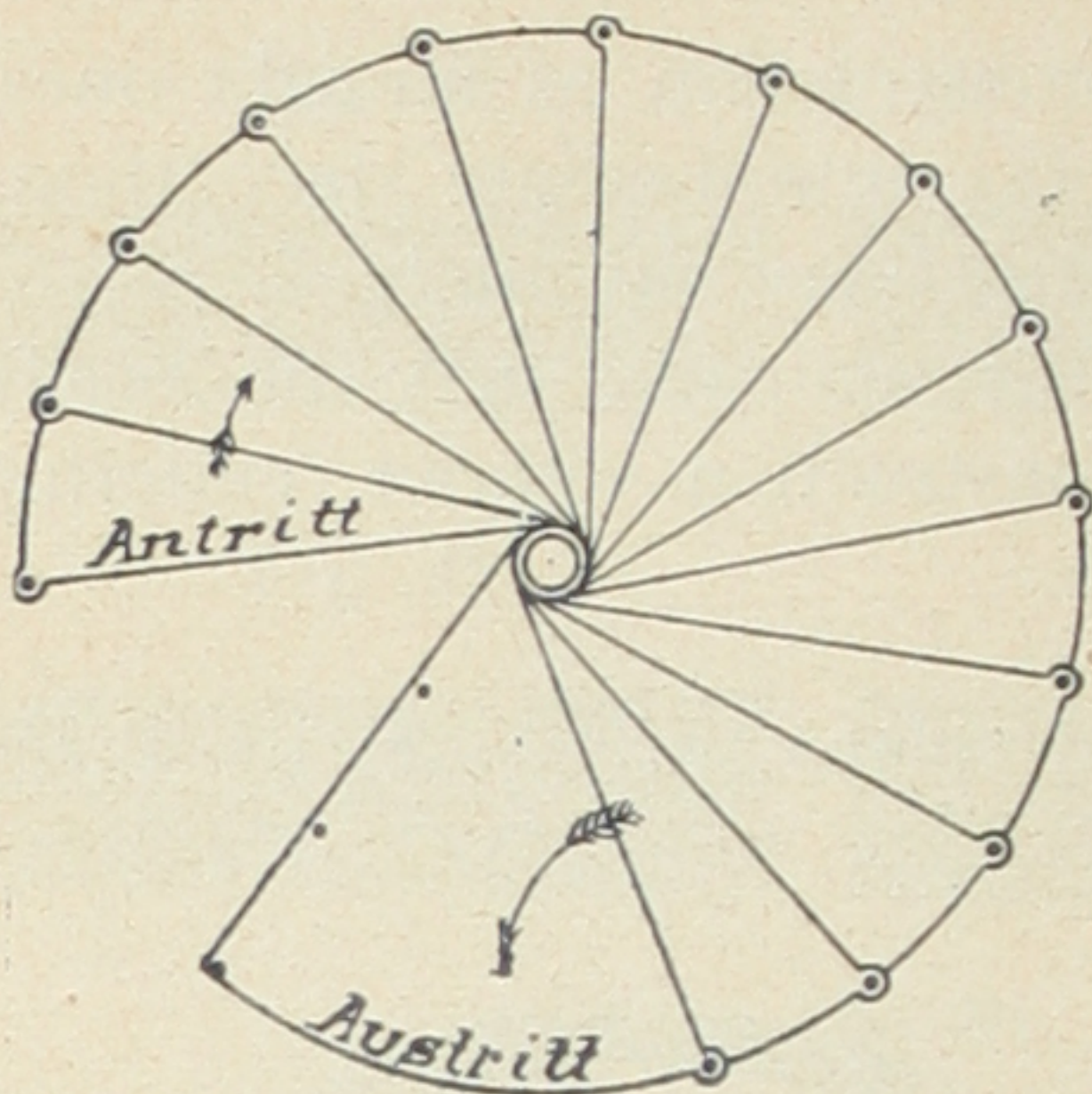


Fig. 66. Plan of newelled winding staircase.

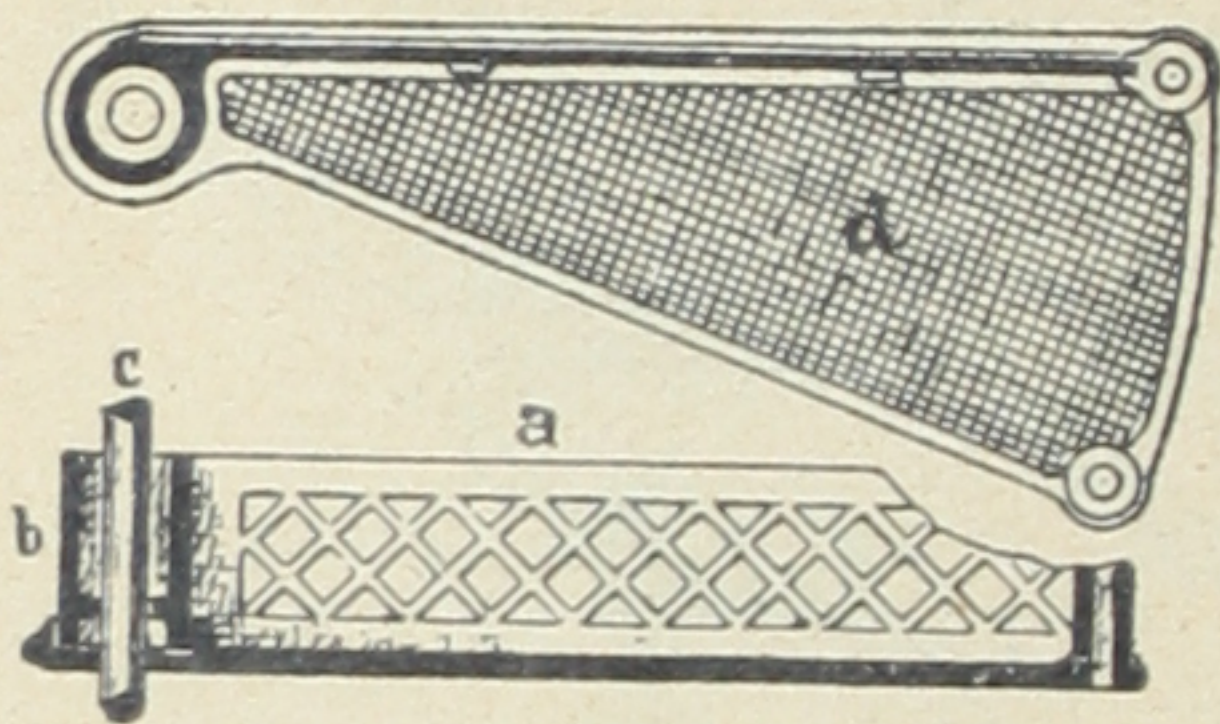


Fig. 67. Step of winding stair, old construction.

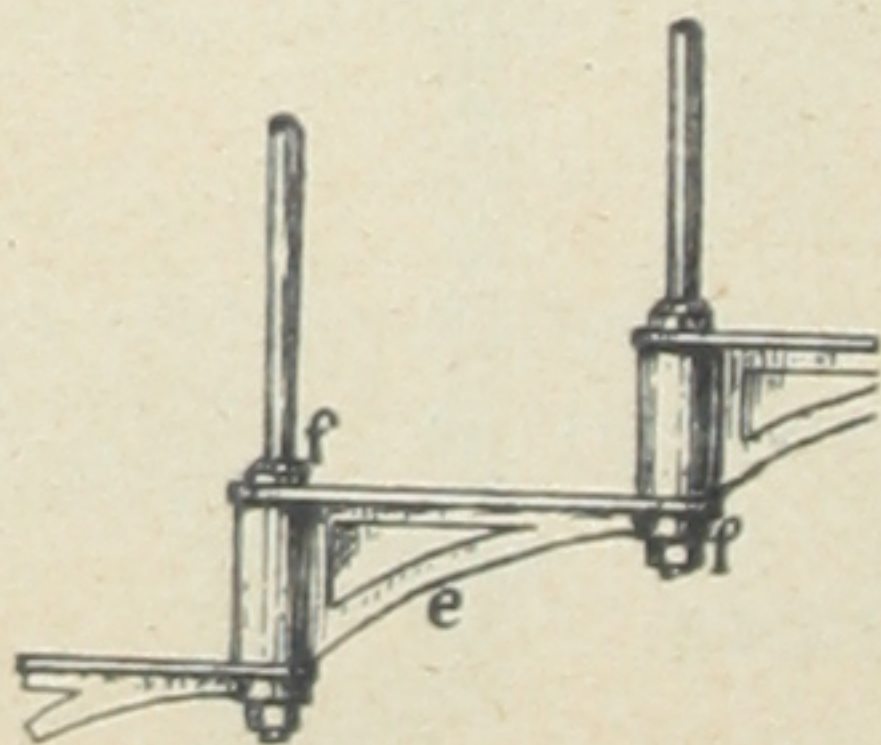


Fig. 68. Frame of winding staircase, old construction.

plates. The riserbords may be done away with in plain winding stairs, in other cases they are the same as in straight stairs. A newel takes the place of the interior carriage, said newel being made to correspond to the style of the stairs.

A wrought iron rod extends through the newel to give the stairs additional stability.

For cheap forms of winding stairs of less constructive beauty, the newel is formed of a series of short sockets *b* built up one on the top of the other and each socket cast on to its respective riserboard or rather plate *a* (fig. 67). *c* is the spindle by means of which all the sockets are screwed together, *d* is the step of fluted cast iron; the outer carriages are formed by brackets *e* (fig. 68) which are screwed together by bolts *f* prolonged from the wrought iron balusters.

Newelled winding stairs are executed in diameters from 4':3" to 6':6", above these diameters, winding staircases or straight stairs are employed.

The **landings** are formed of Joly's patent girders, consisting, as described in the first part of the catalogue, of horizontal rails *a* and *a'* (page 35) vertical distance blocks *c*, bolts *c* and diagonals *d'* and which may be considered to form a horizontal

continuation of the stair carriage. By employing the girders the appearance of the staircase is very considerably improved, and it is recommended to include the girders in the order.

Joly's patent **fireproof landings** are joined to the girders, the construction being similar to that of the ceilings previously illustrated. The \cap -irons *f* (next page) rest on the consols *e* of the blocks *c* and are tightened up at the top by means of the projections on the bolts *b*. The \cap -irons are provided with plates on which planks may be fastened. If the landing is paved with stone the slabs are either laid direct on the irons or on the plates.

Figs. 70—72 show landings in the course of erection.

The next pages show various kinds of staircases; on pages 56—62 are illustrated some staircases of particular beauty, of the middle ages, taken from architectural collections with the authors' permission.

(In order to avoid mistakes be it expressly remarked, that these stairs were not made by the Eisenwerk Joly Wittenberg.)

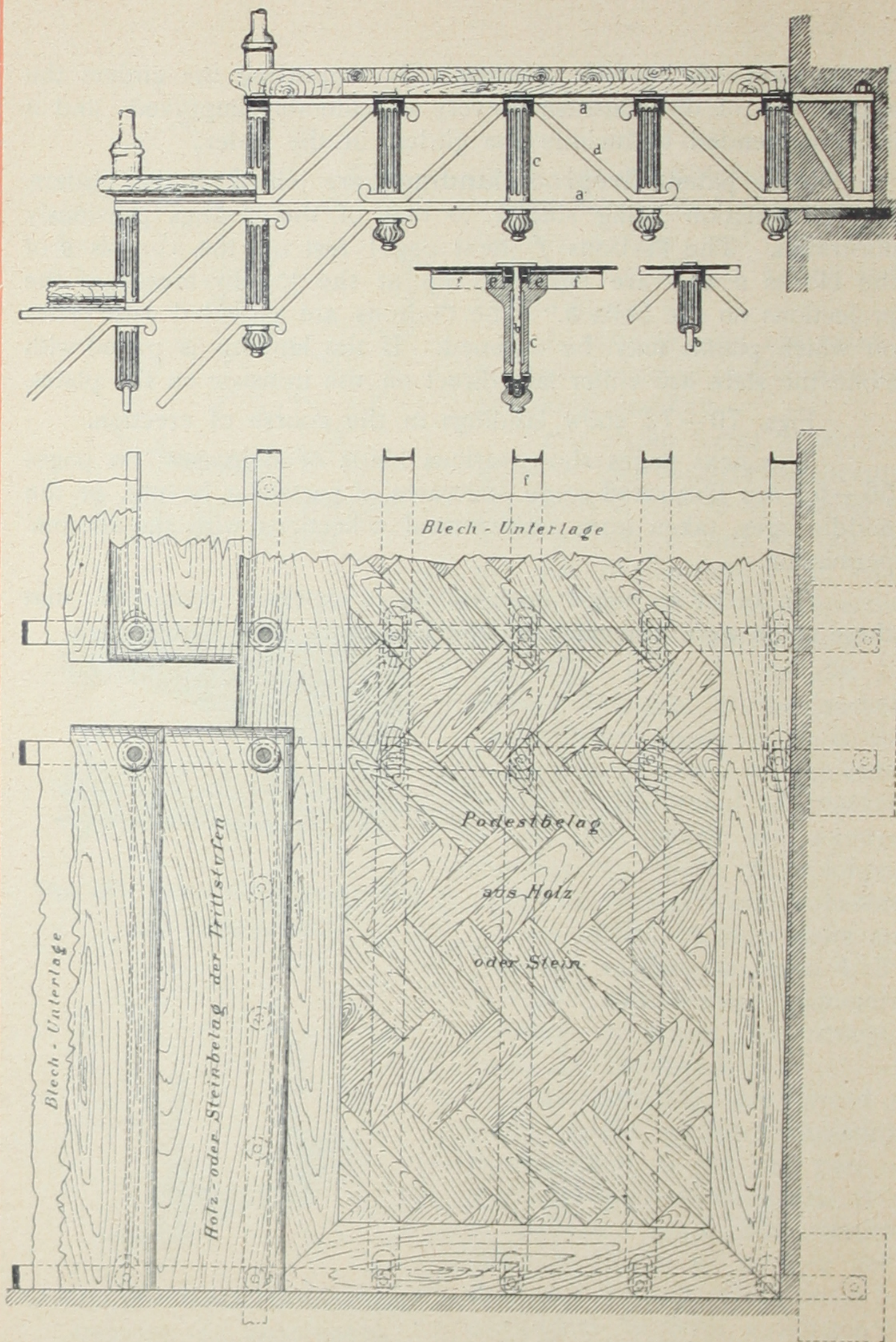


Fig. 69. Joly's patent landing construction.

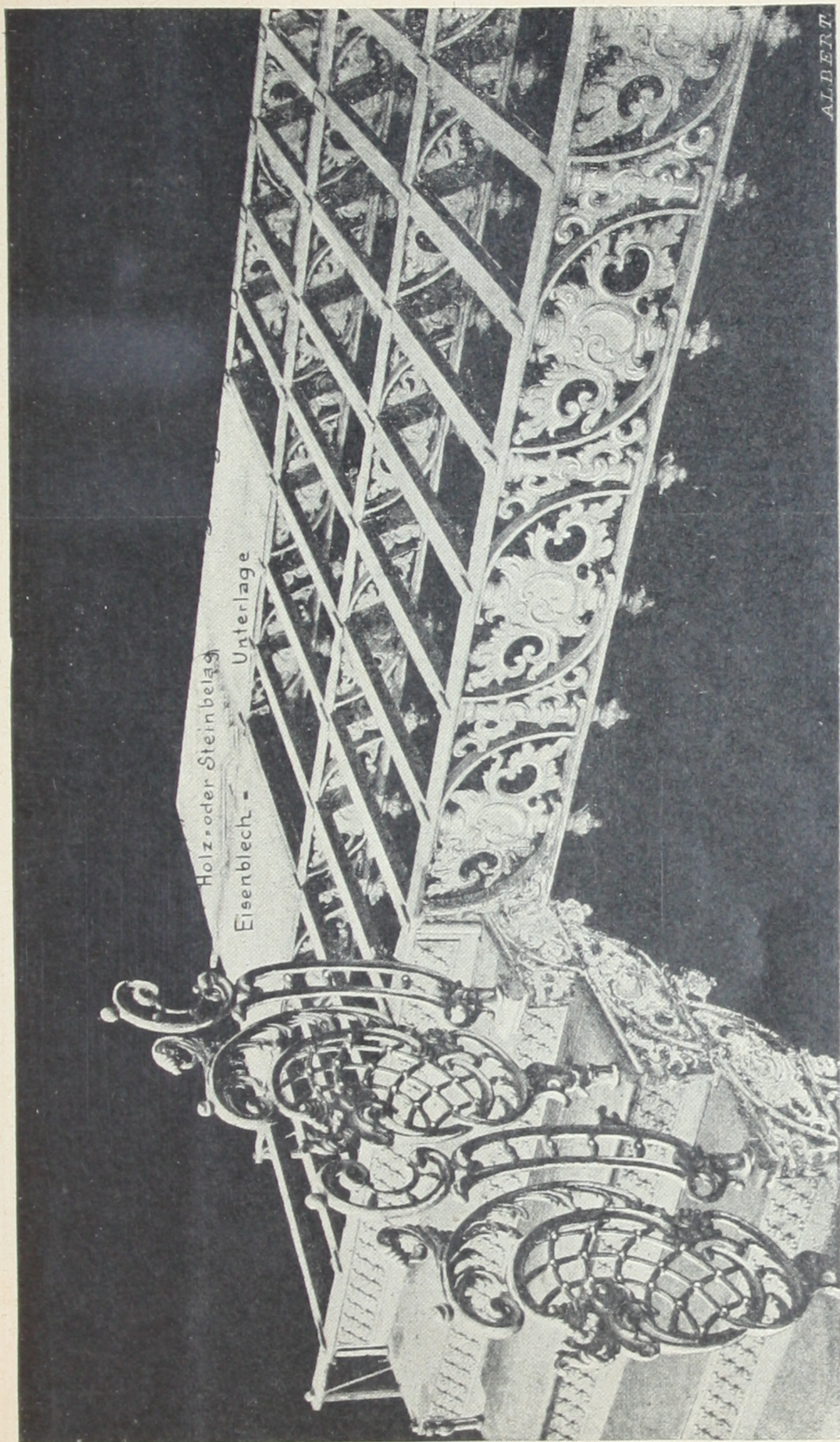


Fig. 70. Joly's patent landing construction (in course of erection).

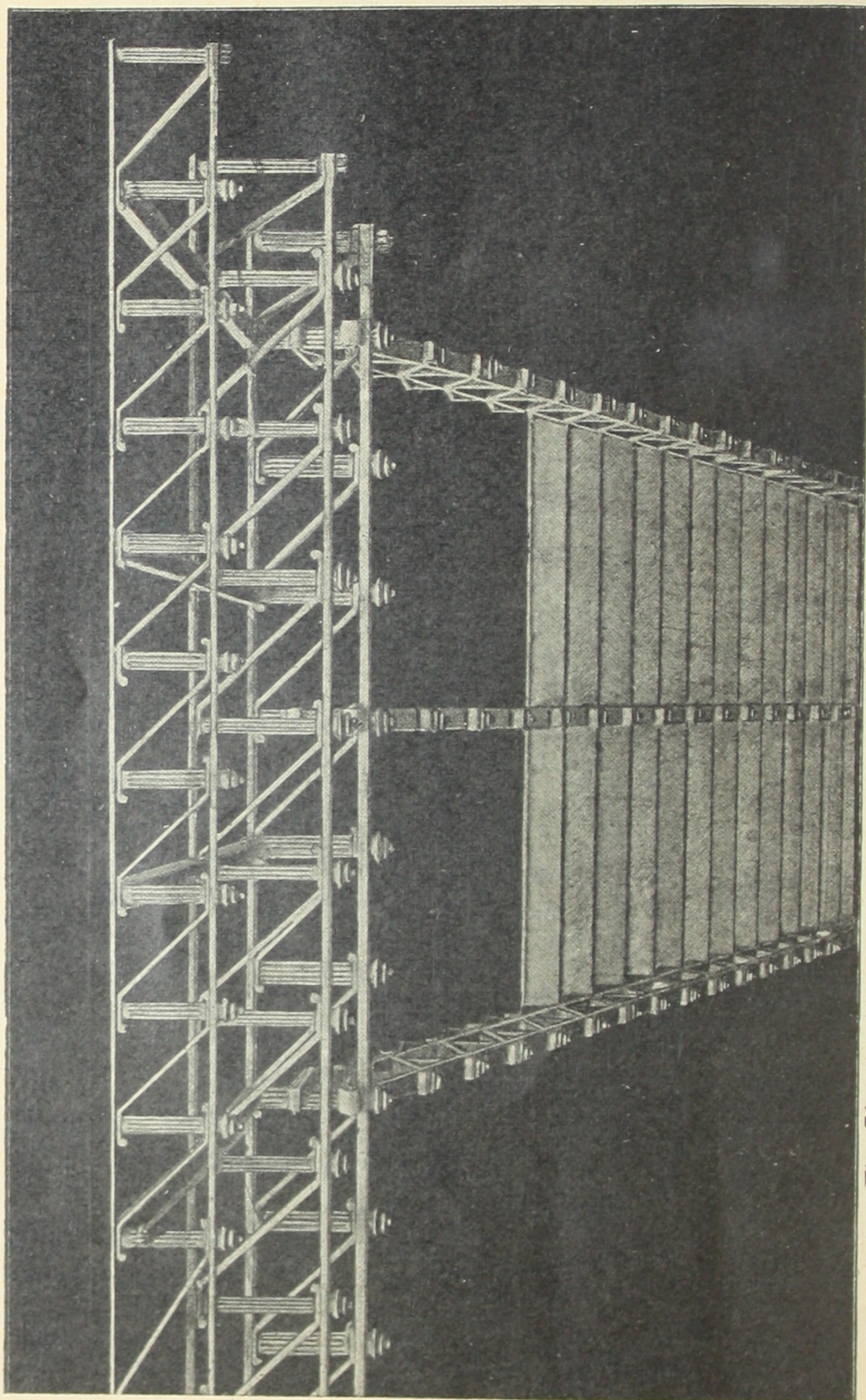


Fig. 71. Joly's patent stair and landing construction (in course of erection).
(The stairs, seen from behind, are not yet completed, and the landing is not yet floored.)

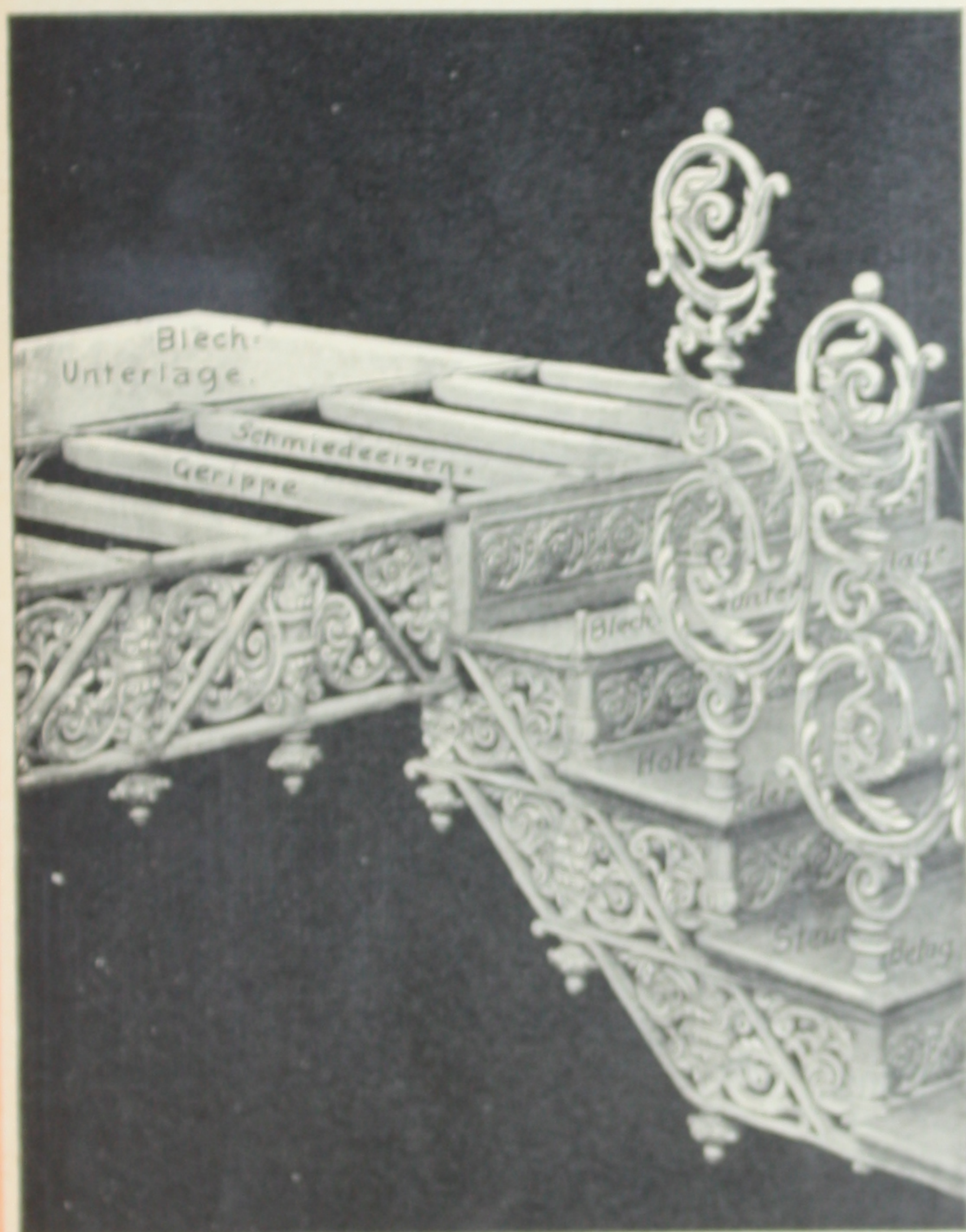


Fig. 72. Joly's patent landing
(in course of erection)

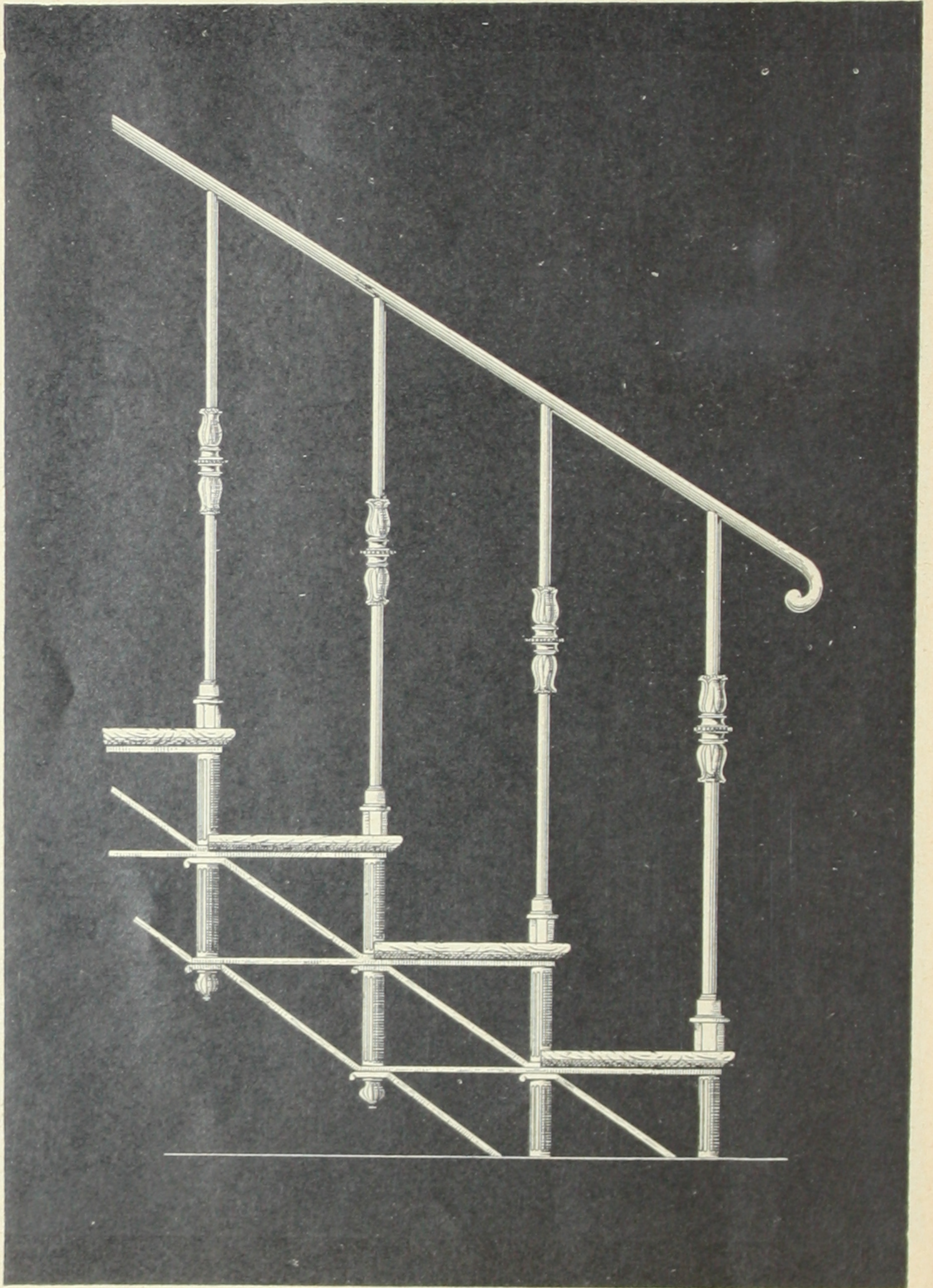


Fig. 73. Joly's patent staircases for manufactories, court yards, etc. Carriage and rails of wrought iron, riser boards of cast iron plates, which may, however, be omitted. Wood steps with or without plate lining.

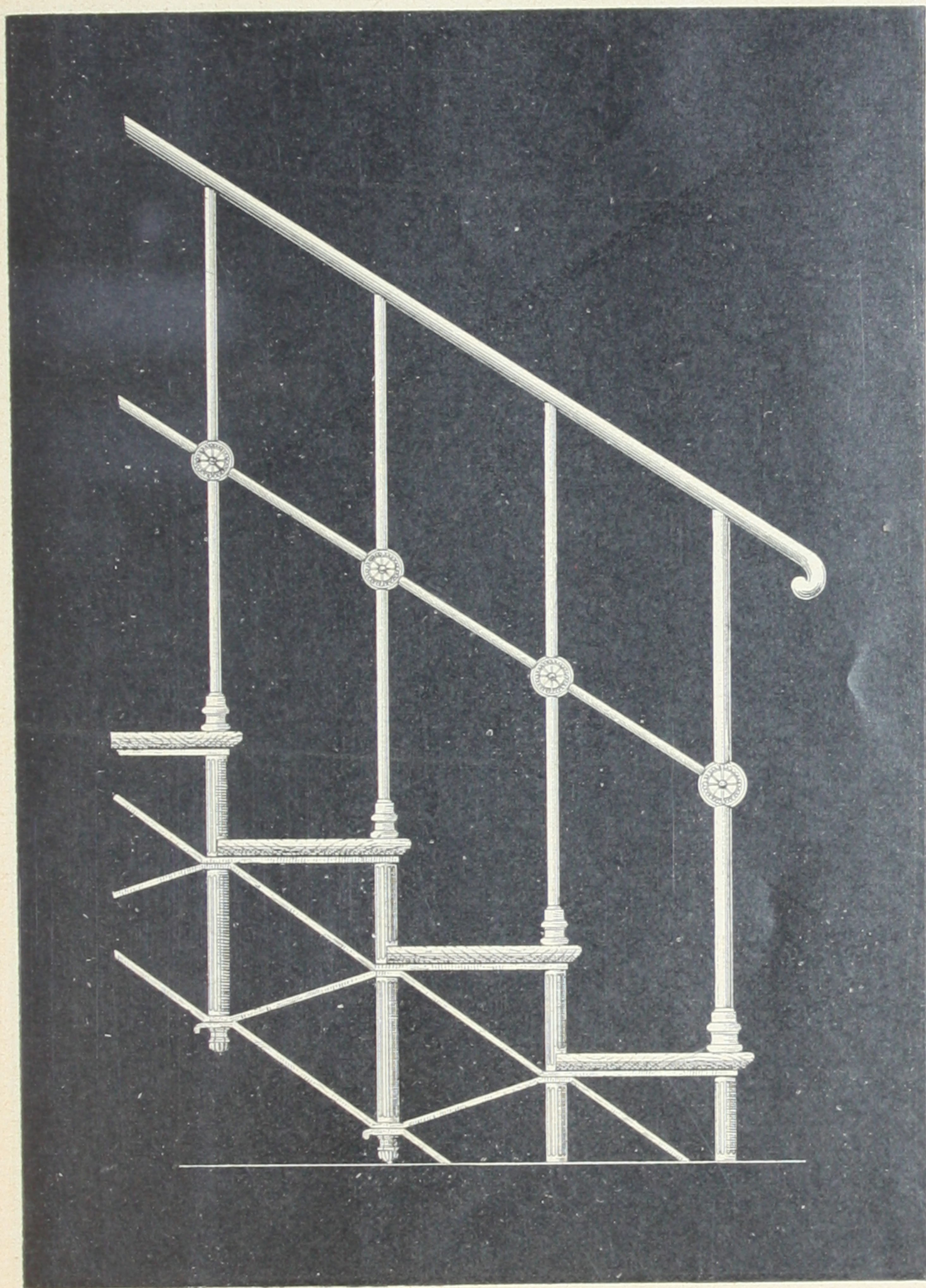


Fig. 74. Joly's patent fireproof stairs for barracks, schools, etc.
Carriage and rails of wrought iron, steps wood with sheet metal lining, slabs or riser
boards of full cast plates.

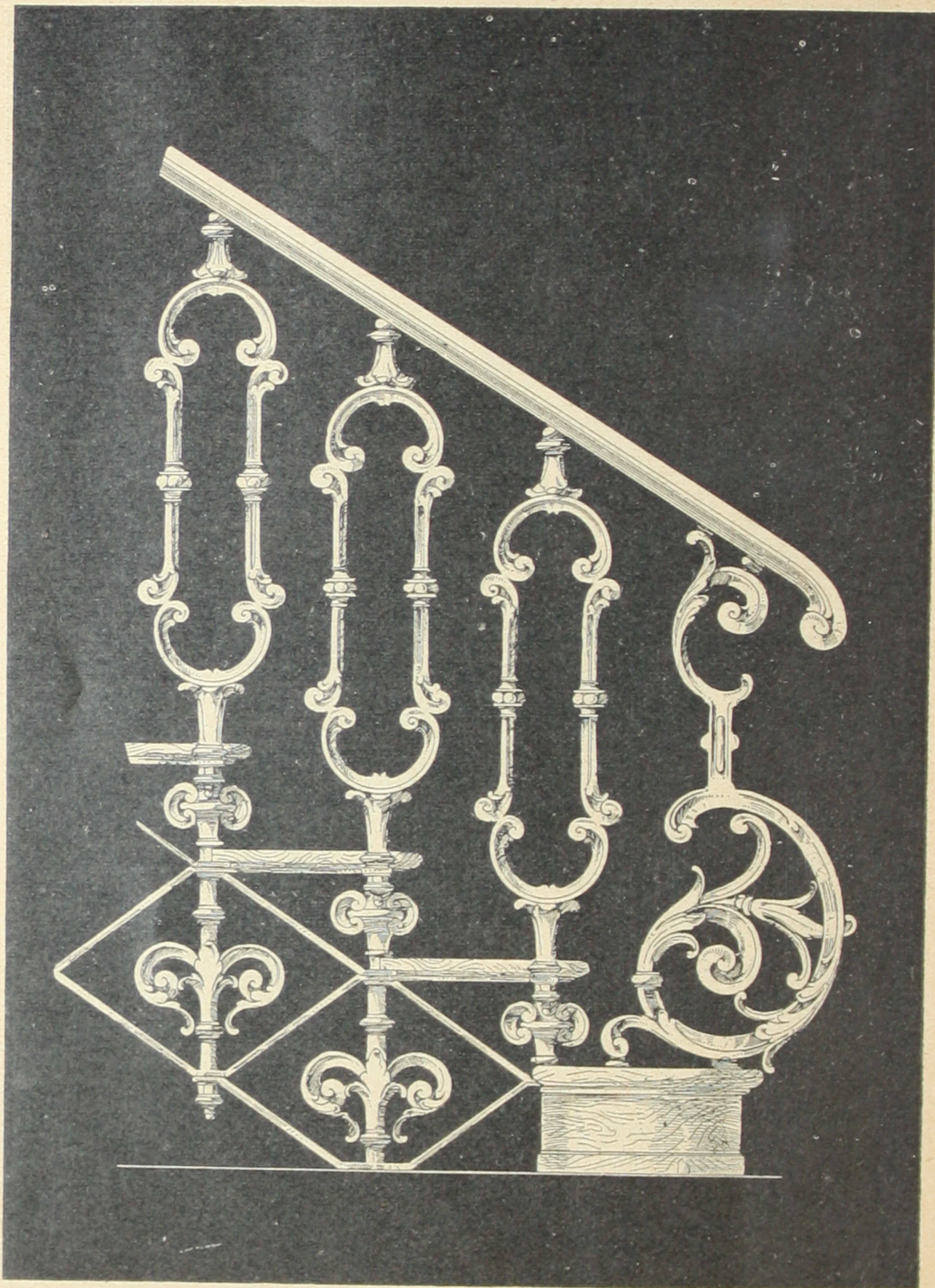


Fig. 75. Joly's patent fireproof stairs for small dwellings, schools, etc.

Balusters art castings, carriages wrought iron, with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.

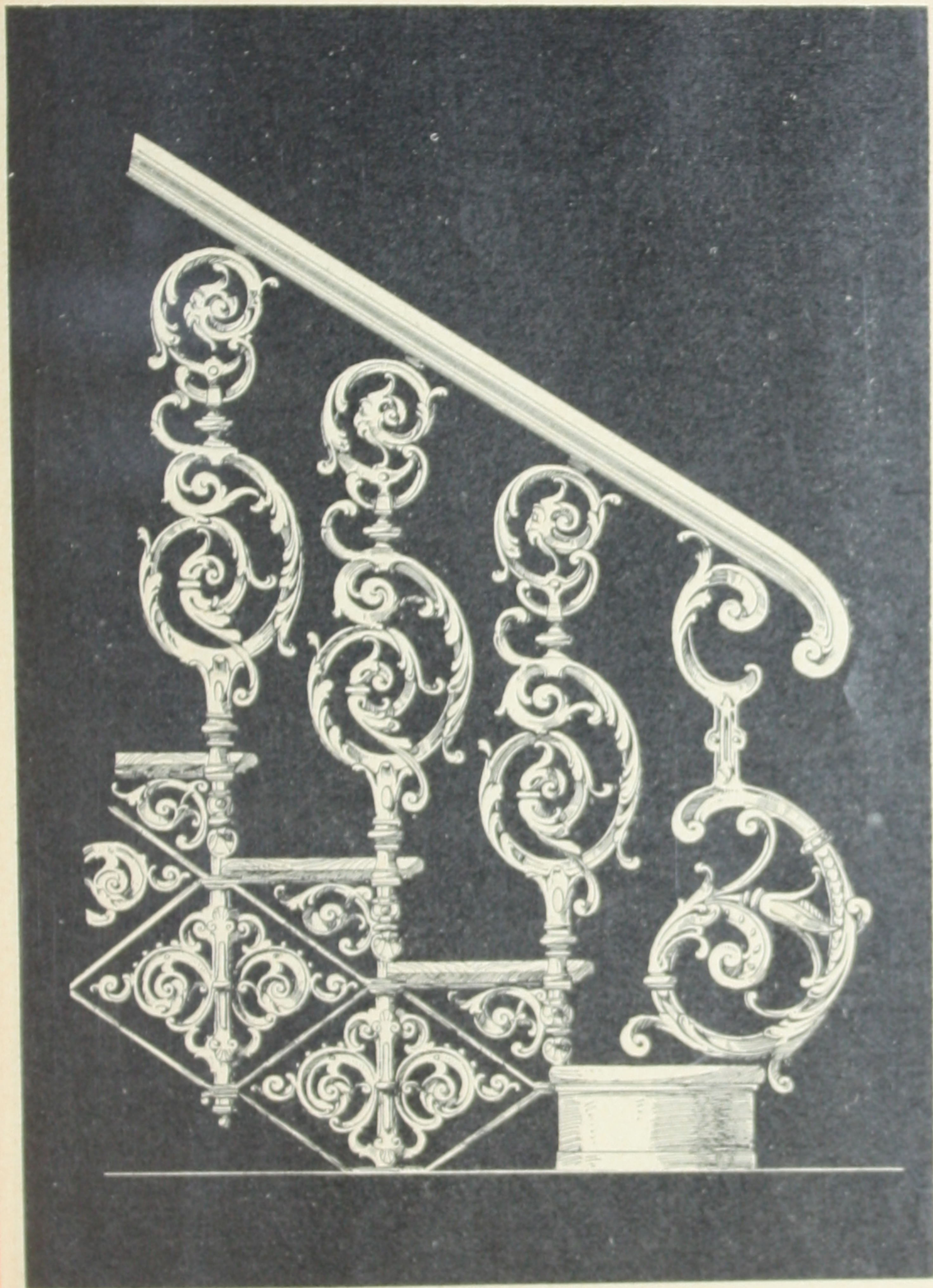


Fig. 76. Joly's patent fireproof stairs (Renaissance).

Balusters art castings, carriages wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.

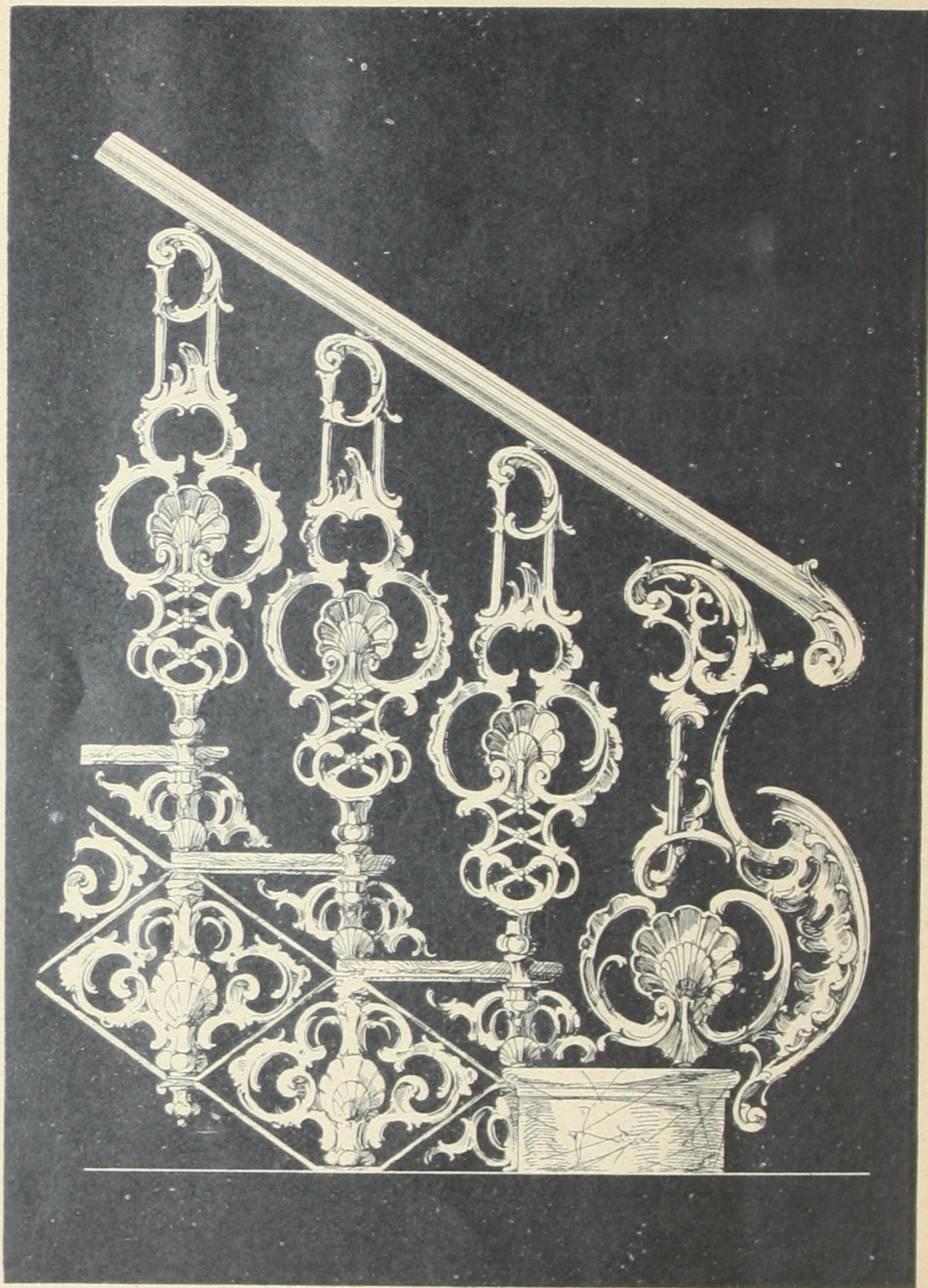


Fig. 77. Joly's patent fireproof stairs (Rococo).

Balusters art castings, carriages wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.

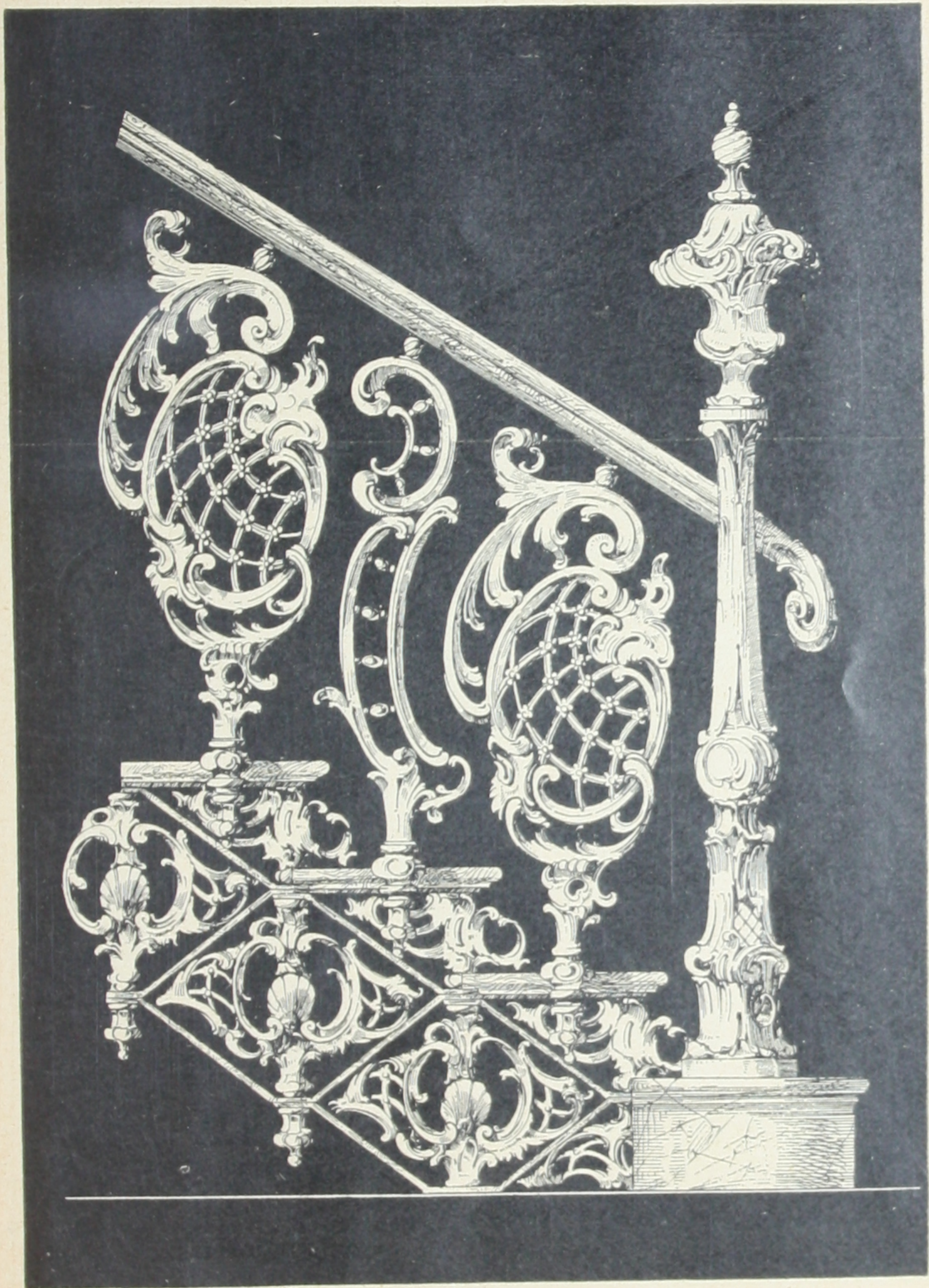


Fig. 78. Joly's patent fireproof stairs (Rococo).

Balusters art castings, carriages wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.

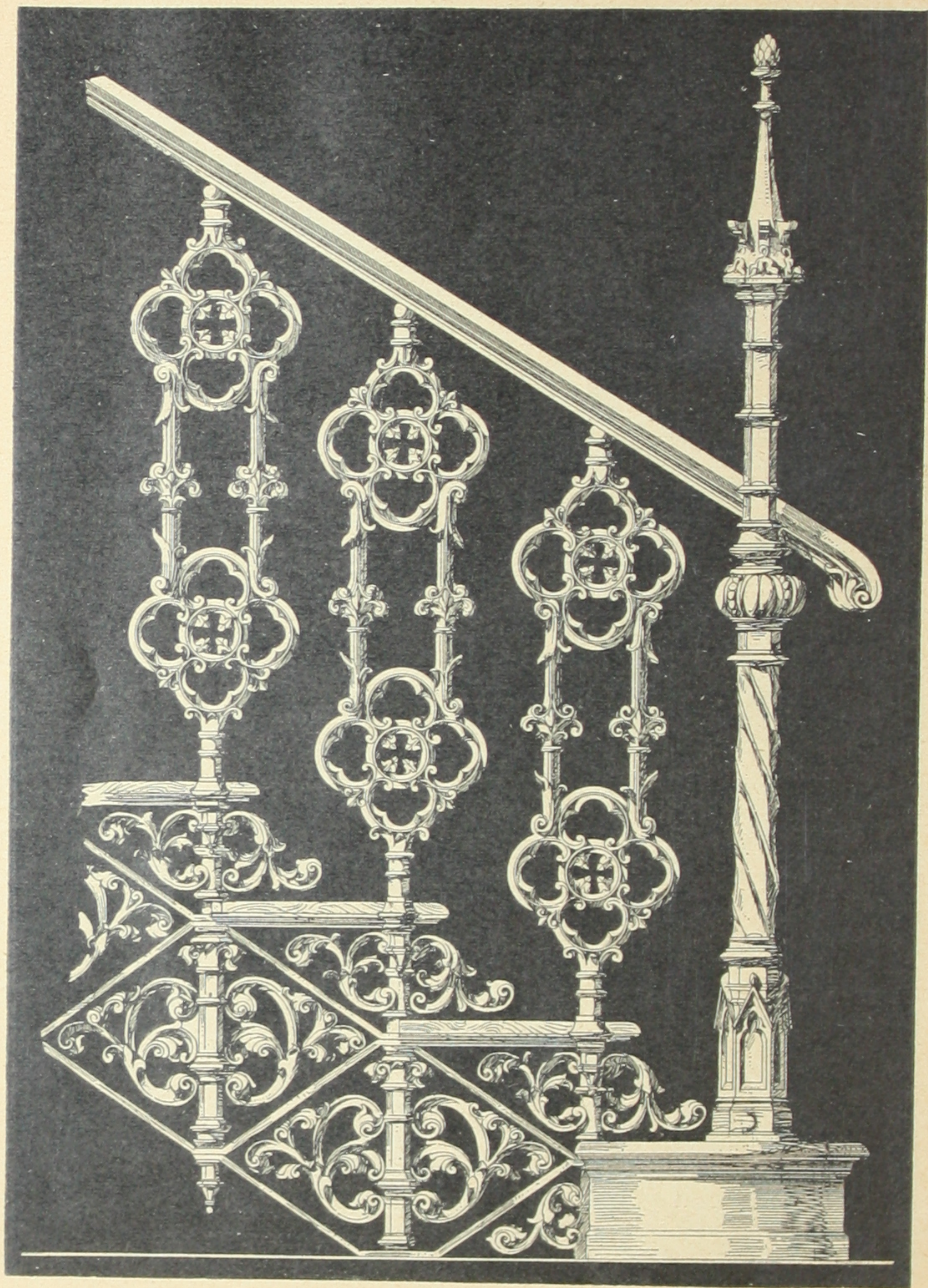


Fig. 79. Joly's patent fireproof stairs (Gothic).

Balusters art castings, carriages wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.

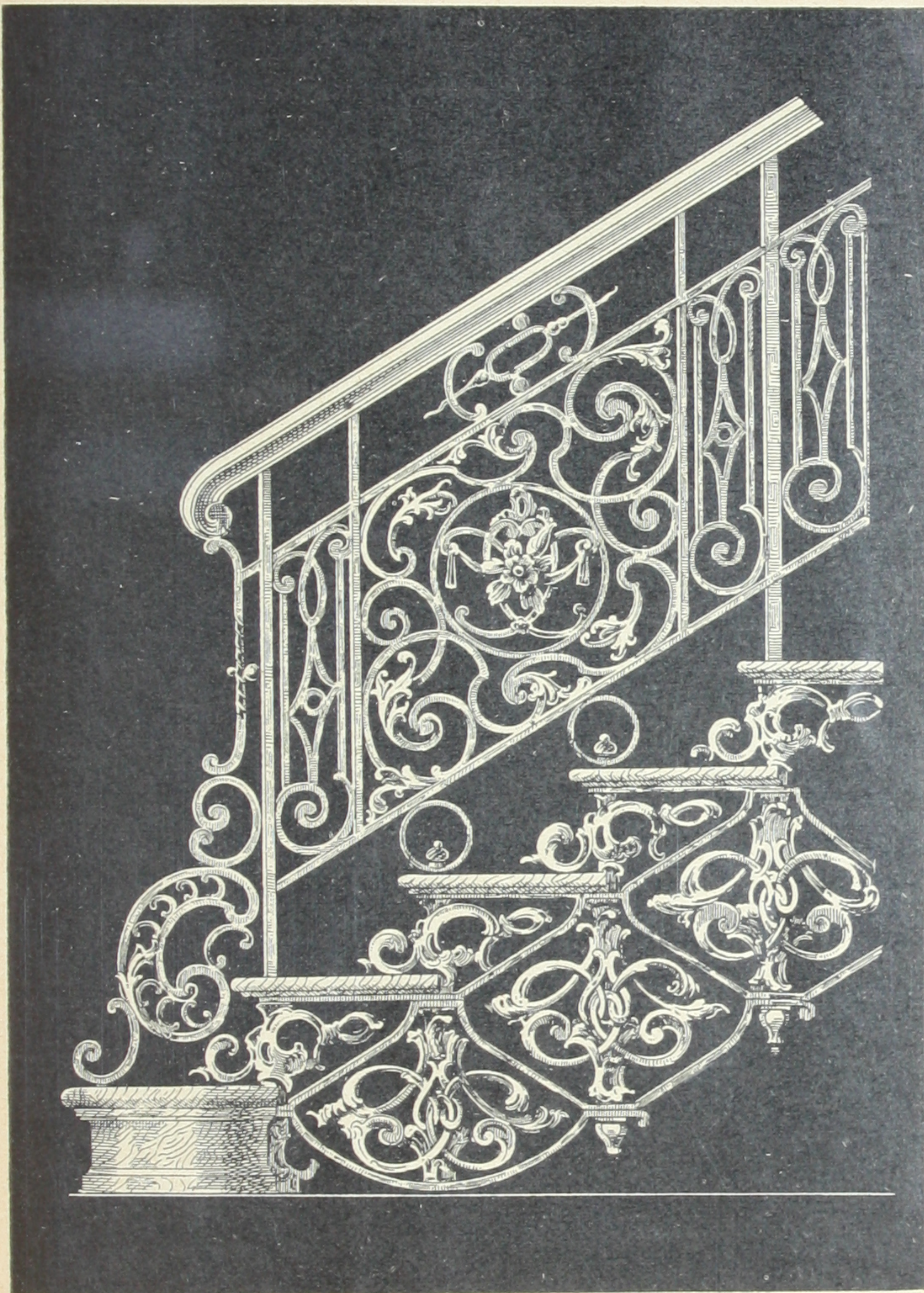


Fig. 80. Joly's patent fireproof stairs.

Balusters fancy wrought iron work, carriages, wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.

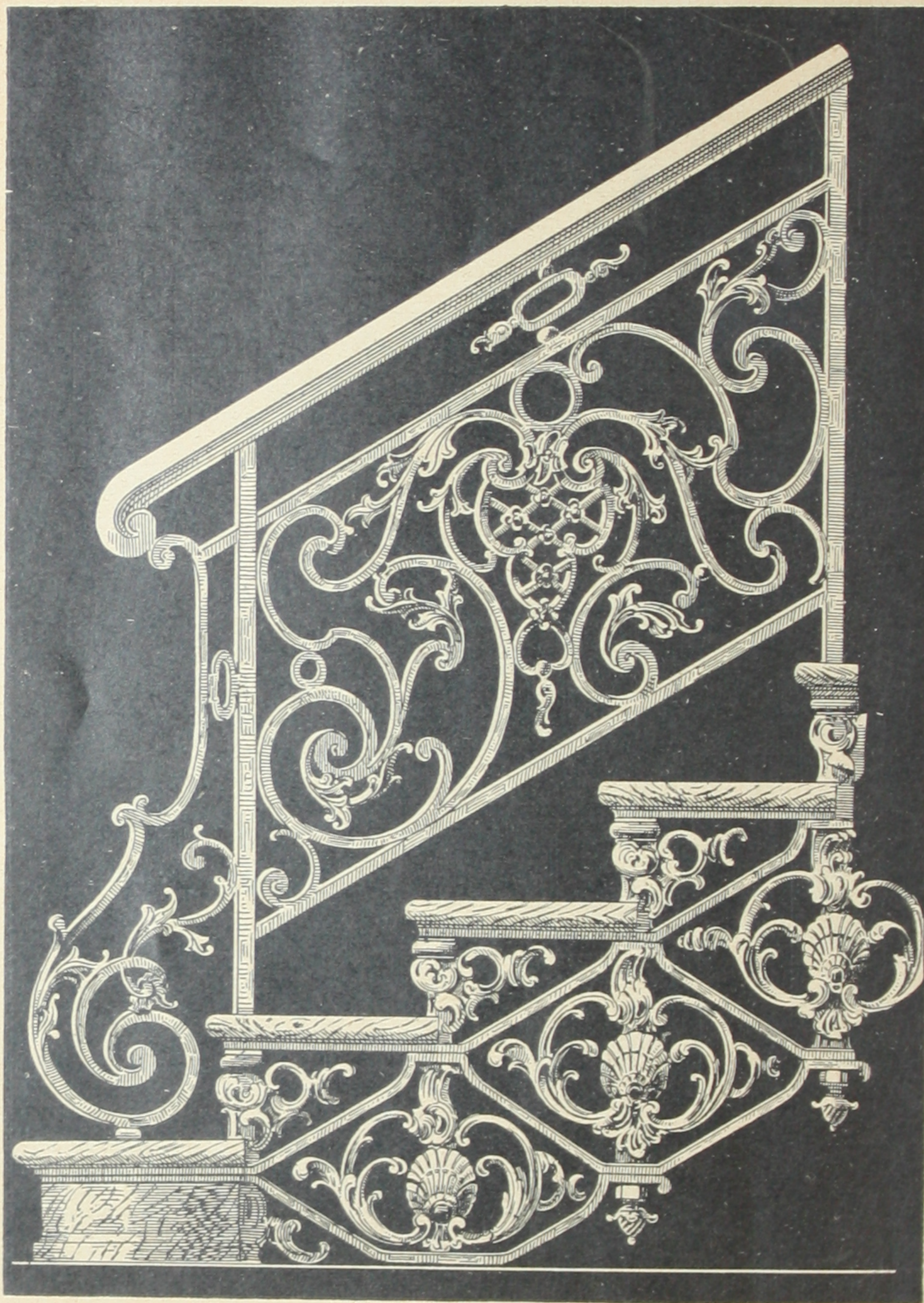


Fig. 81. Joly's patent fireproof stairs.

Balusters fancy wrought iron work, carriages wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.



Fig. 82. Joly's patent fireproof stairs (Renaissance).

Balusters art castings, carriages wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.

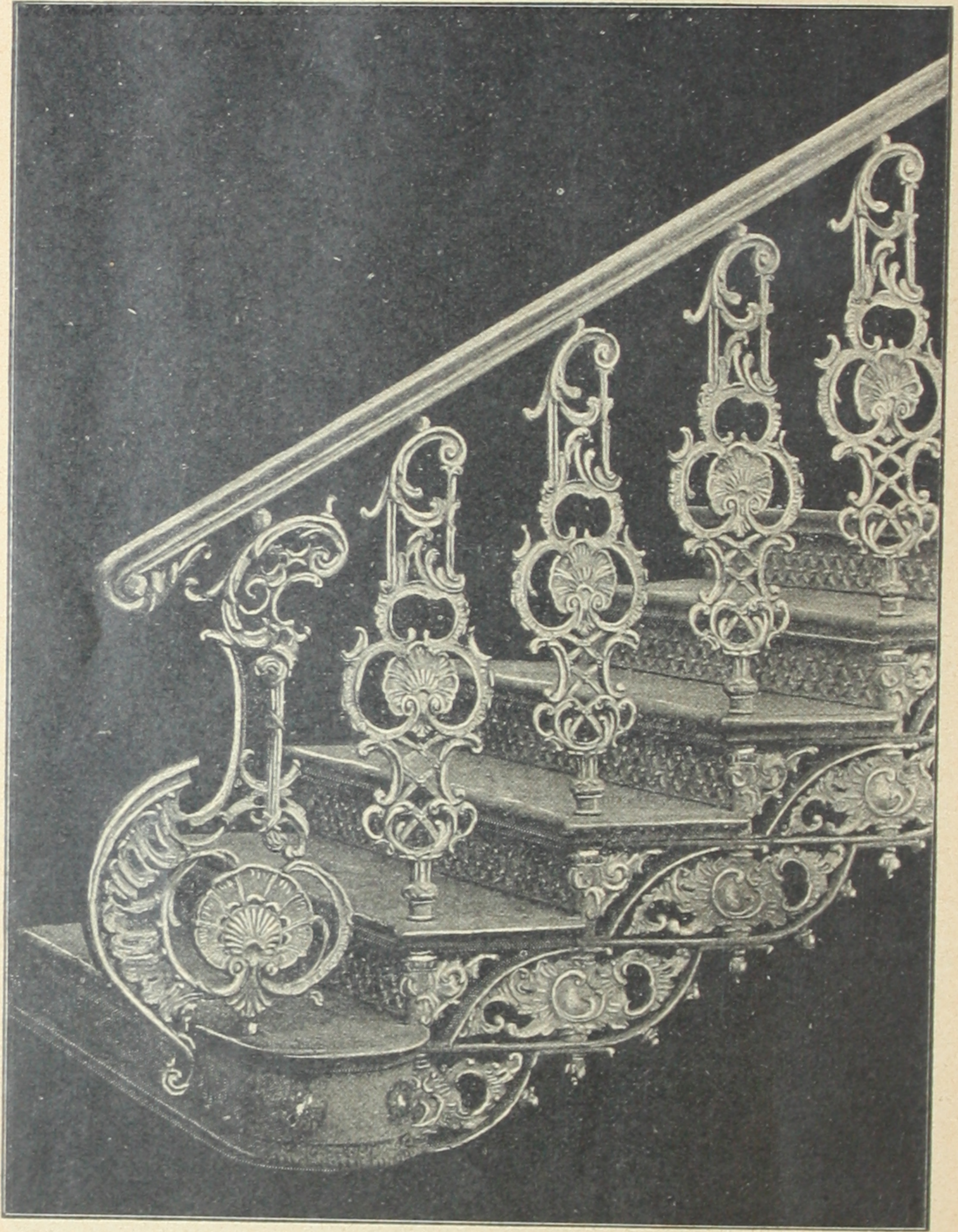


Fig. 83. Joly's patent fireproof stairs (Rococo).

Balusters art castings, carriages wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.



Fig. 84. Joly's patent fireproof stairs with wood steps for a hospital.

The rise of the stairs ($4\frac{1}{2}'' \times 12''$) is so arranged that a stretcher being carried up stairs may be as slightly inclined as possible. Width of staircase 6' 6".

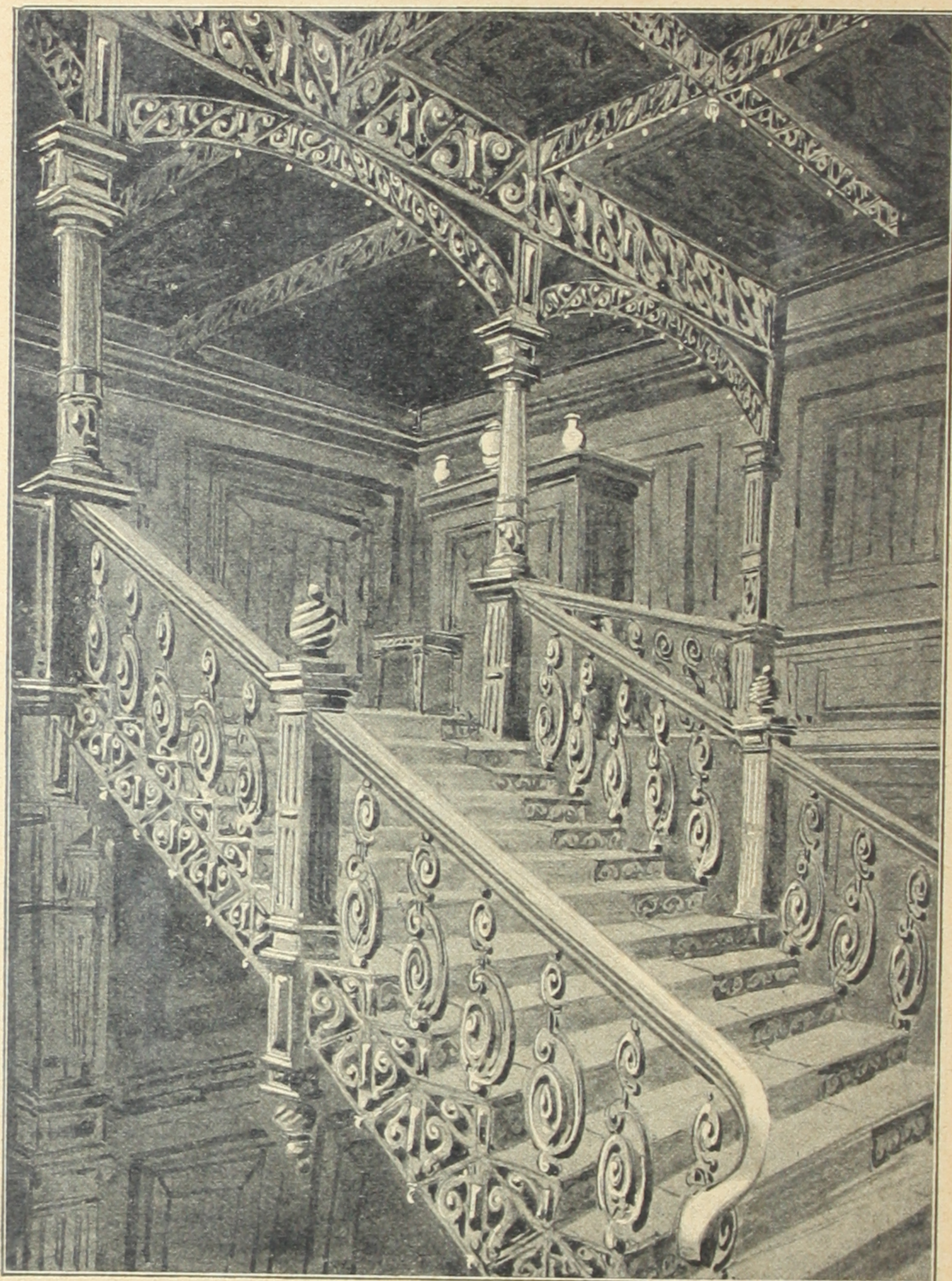


Fig. 85. Staircase in Renaissance style.
Stairs and roofing on Joly's patent system.

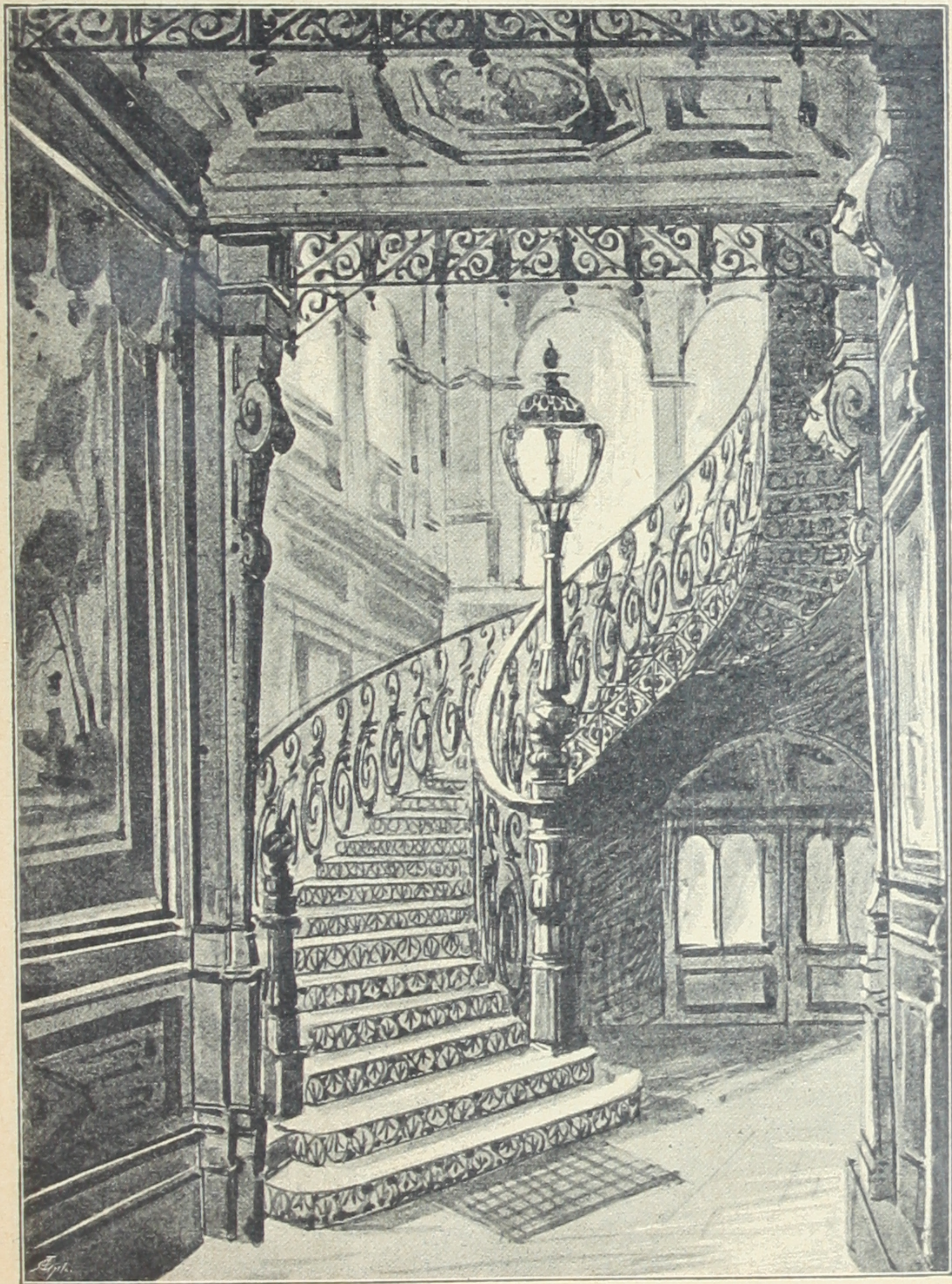


Fig. 86. Staircase in Renaissance style.
Staircase and roofing on Joly's patent system.

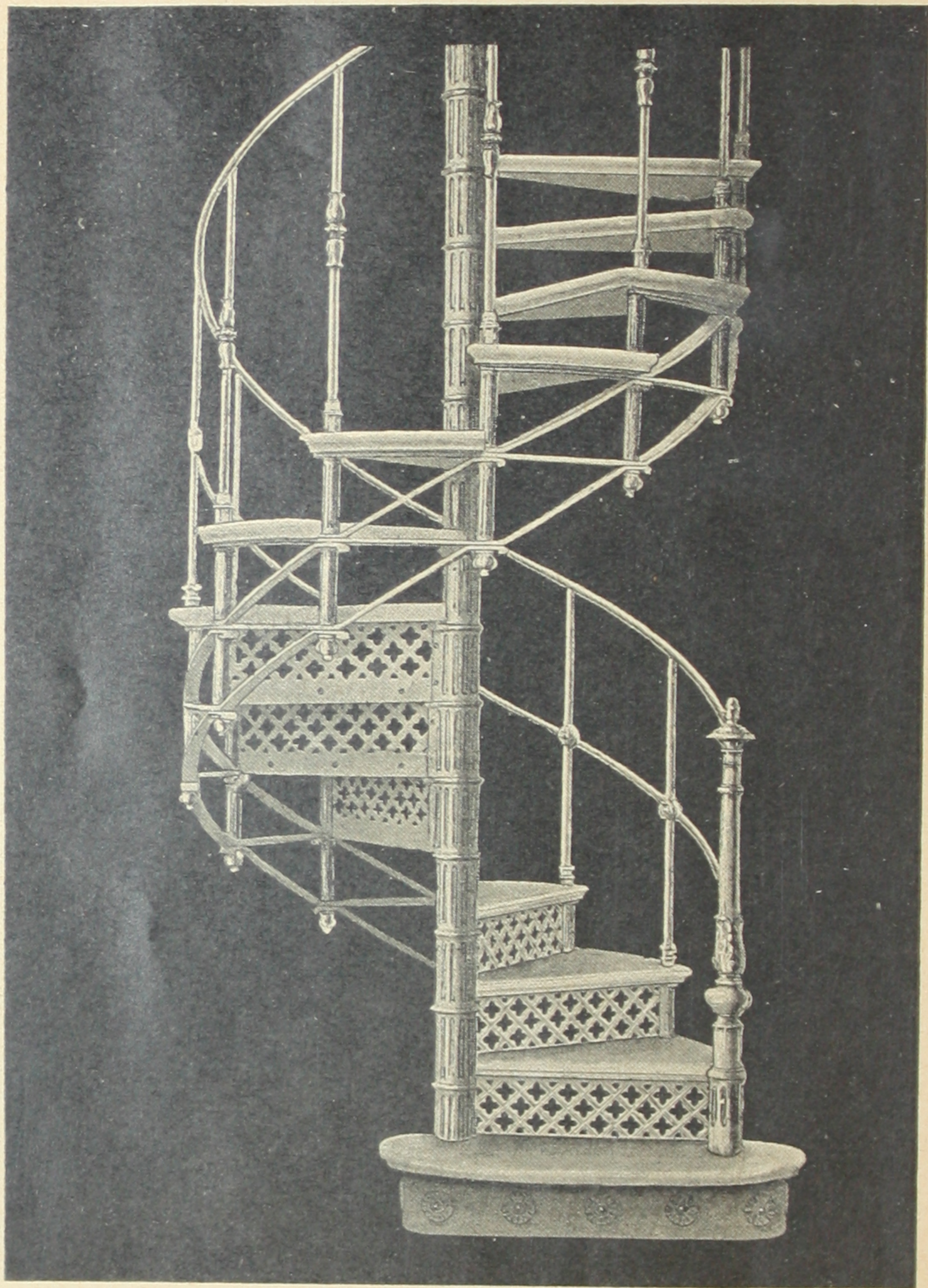


Fig. 88. Joly's patent winding stairs.

Handrail and carriage of wrought iron with or without sheet metal lining. Riserboards unnecessary or of cast plates. (The lower part of the staircase is shown with riser boards and baluster stay rail, and the upper part without the same.) The staircase is fireproof, if full riserboards and sheet metal lining are added.

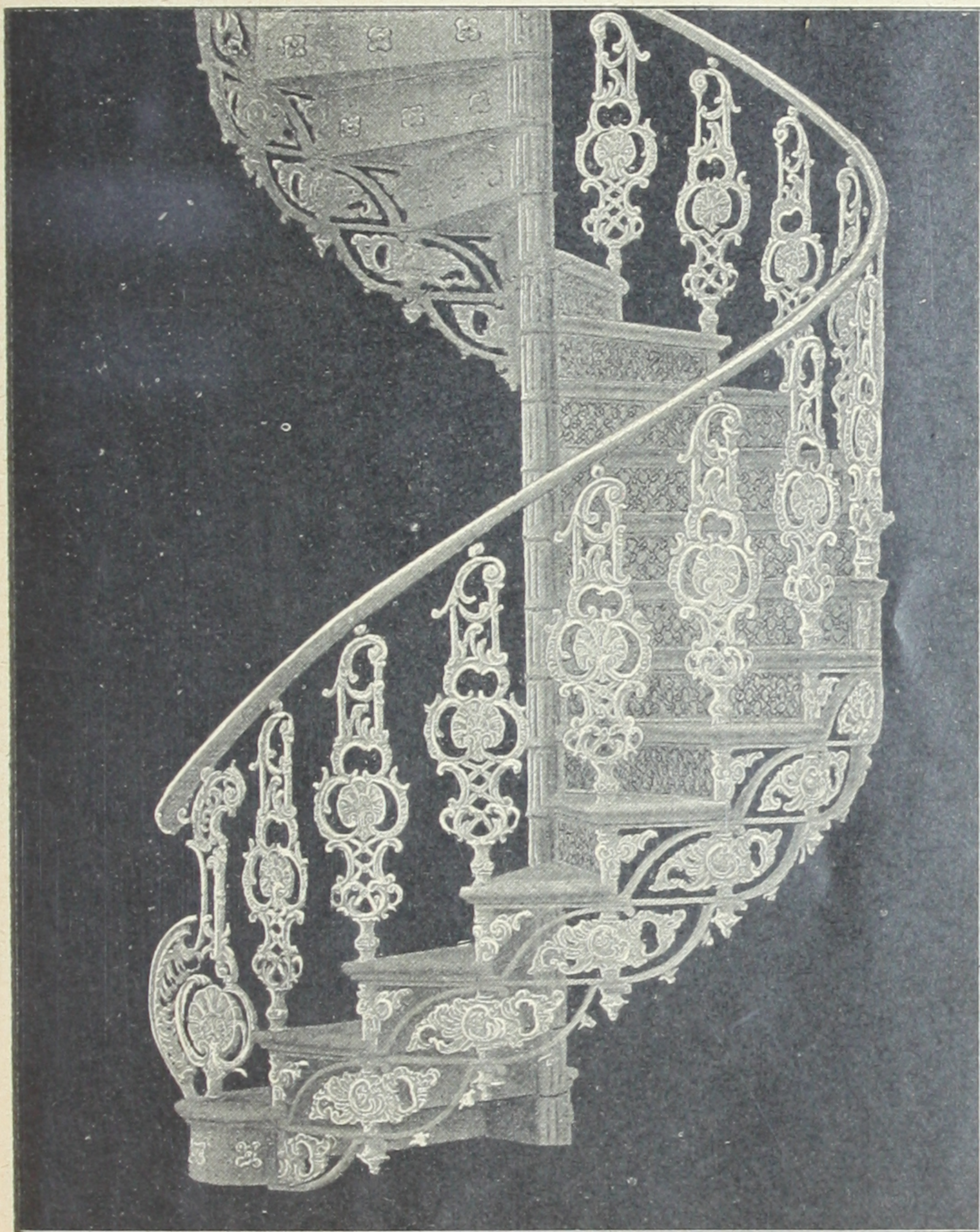


Fig. 89. Joly's patent winding stairs (fireproof).

Balusters art castings, carriages wrought iron with ornamental castings, steps wood with sheet metal lining or stone, riserboards ornamental cast plates.

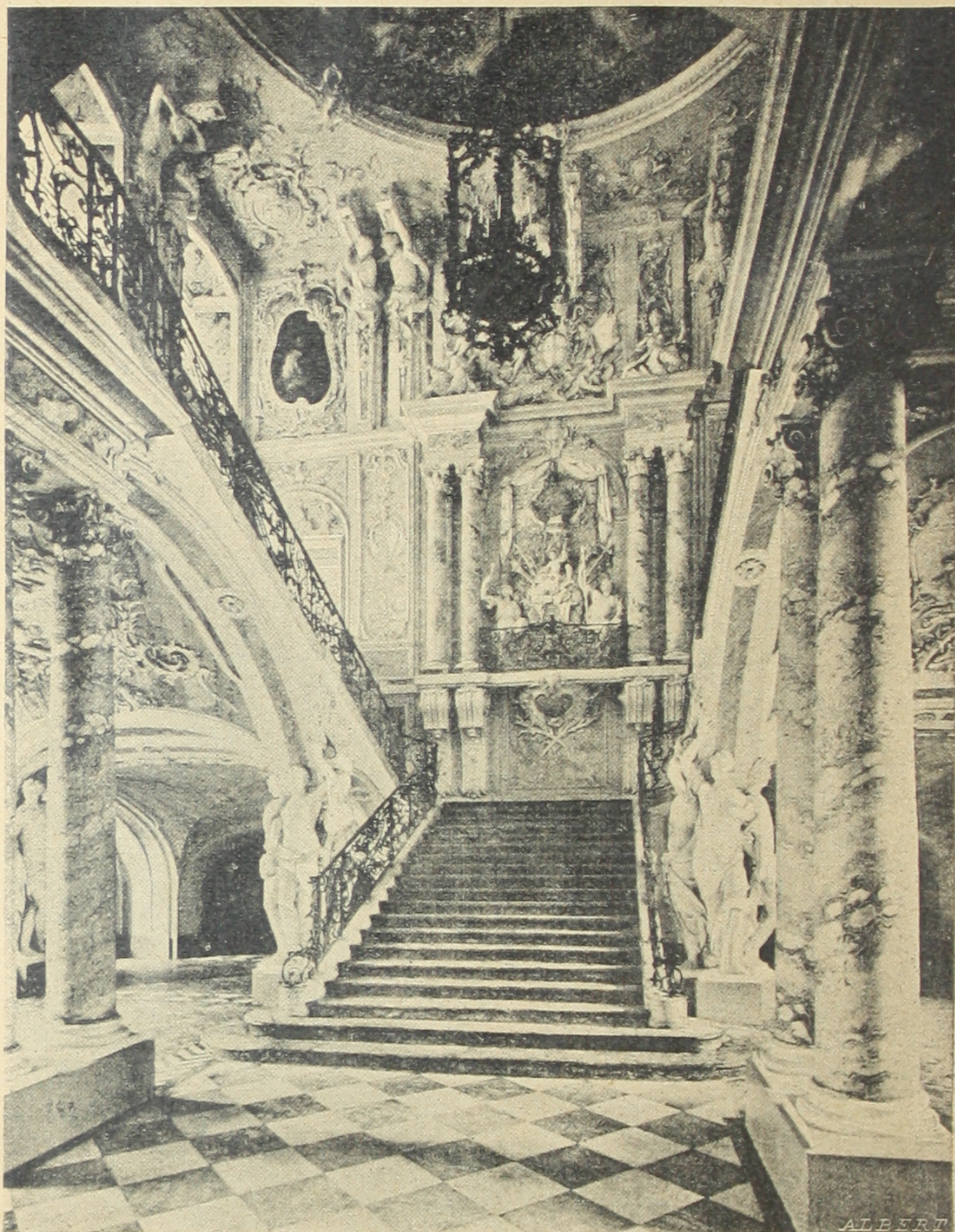


Fig. 90. Staircase of the Royal Castle at Brühl.

From a photograph by Anselm Schmitz, Cologne.
(Exact imitations of the balusters are supplied.)



Fig. 91. Staircase of the Royal Castle at Brühl.
From a photograph by Anselm Schmitz, Cologne.
(Exact imitations of the balusters are supplied.)

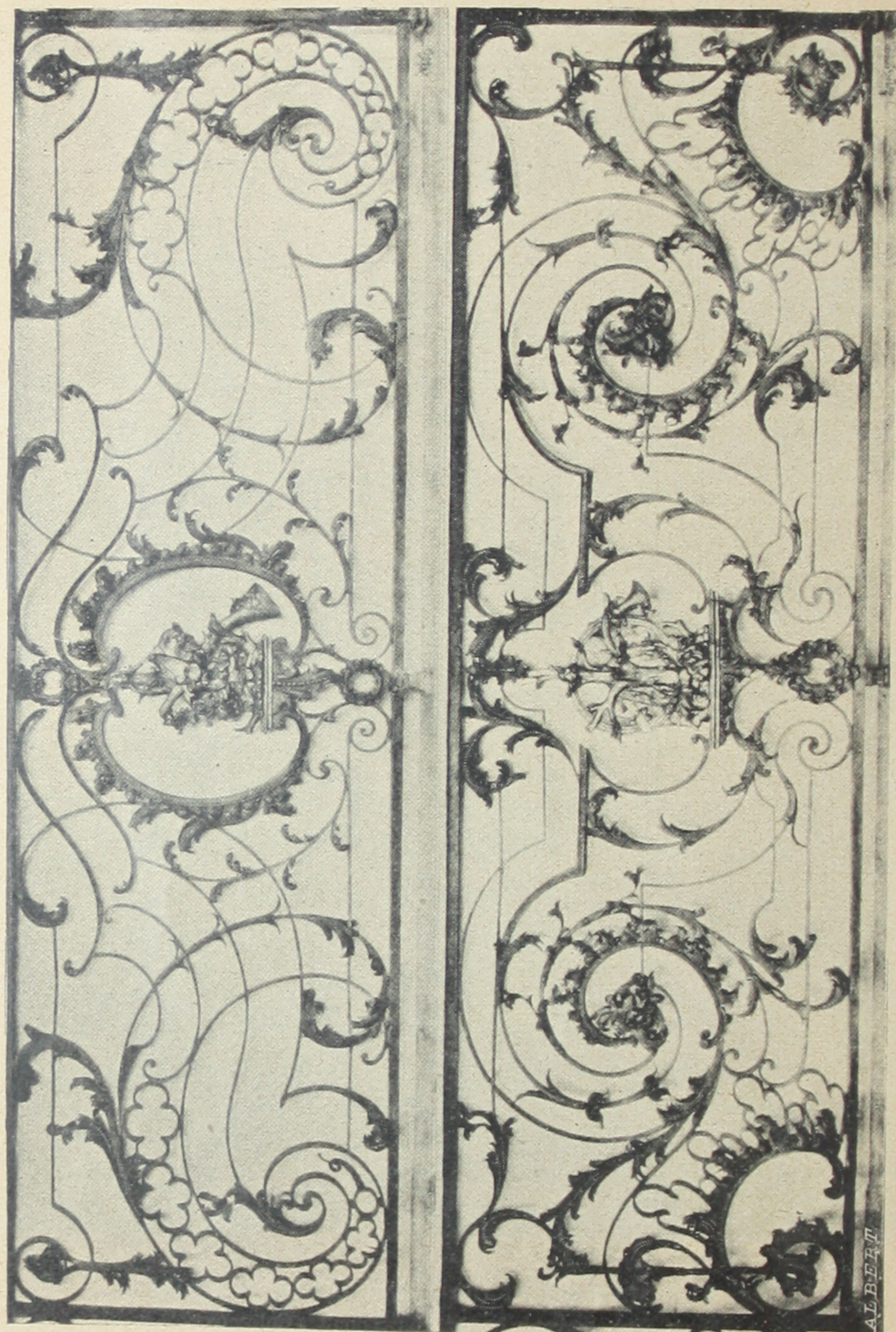


Fig. 92. Landing balustrade in the Royal Castle at Brühl (is most accurately imitated).
From a photograph by Anselm Schmitz, Cologne.

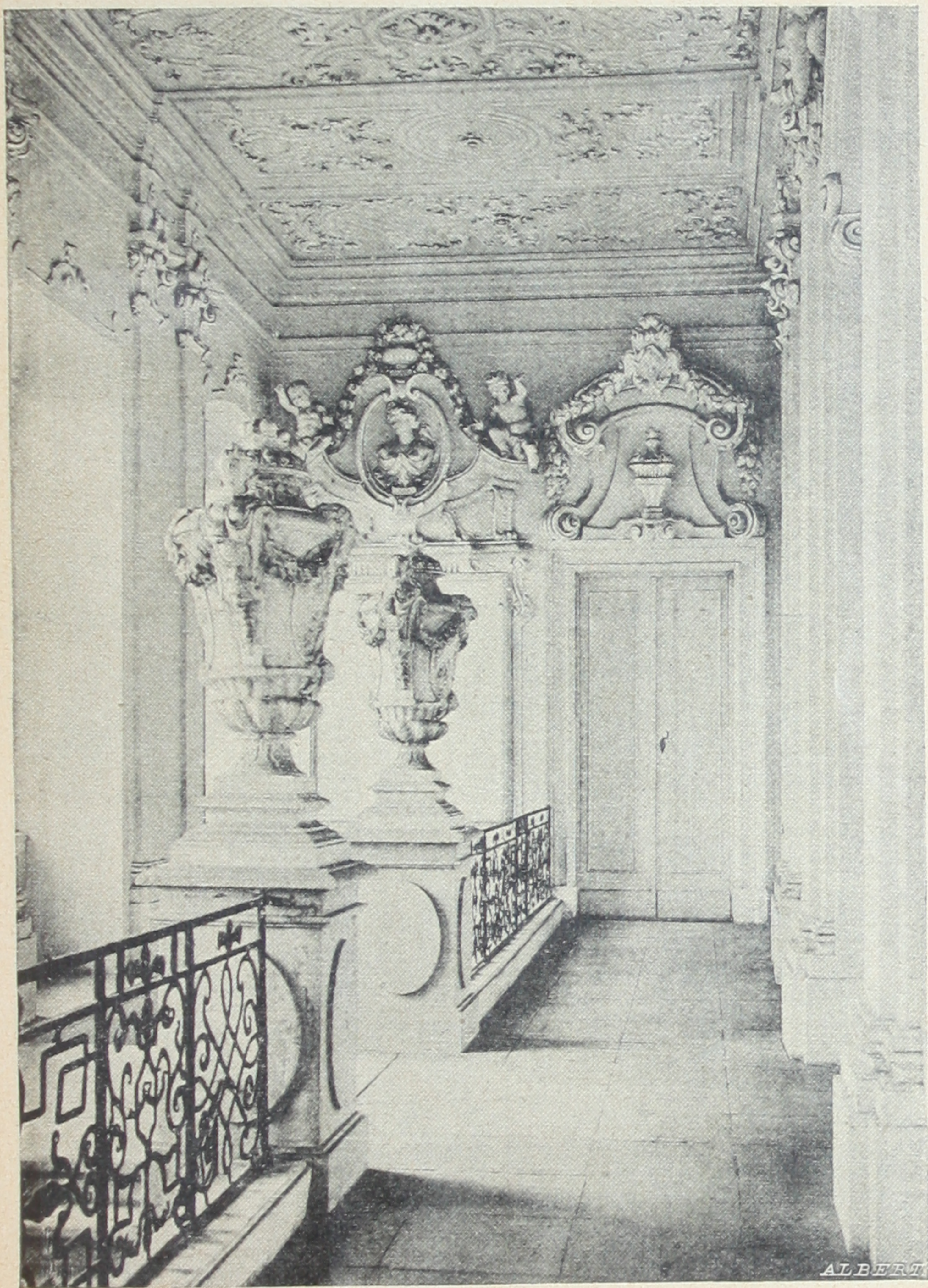


Fig. 93. Landing in the Castle Ludwigsburg 1709—1723.
Taken from Dohme „Barock und Rococo-Architectur“, Berlin, Ernst Wasmuth.
(Exact imitations supplied.)

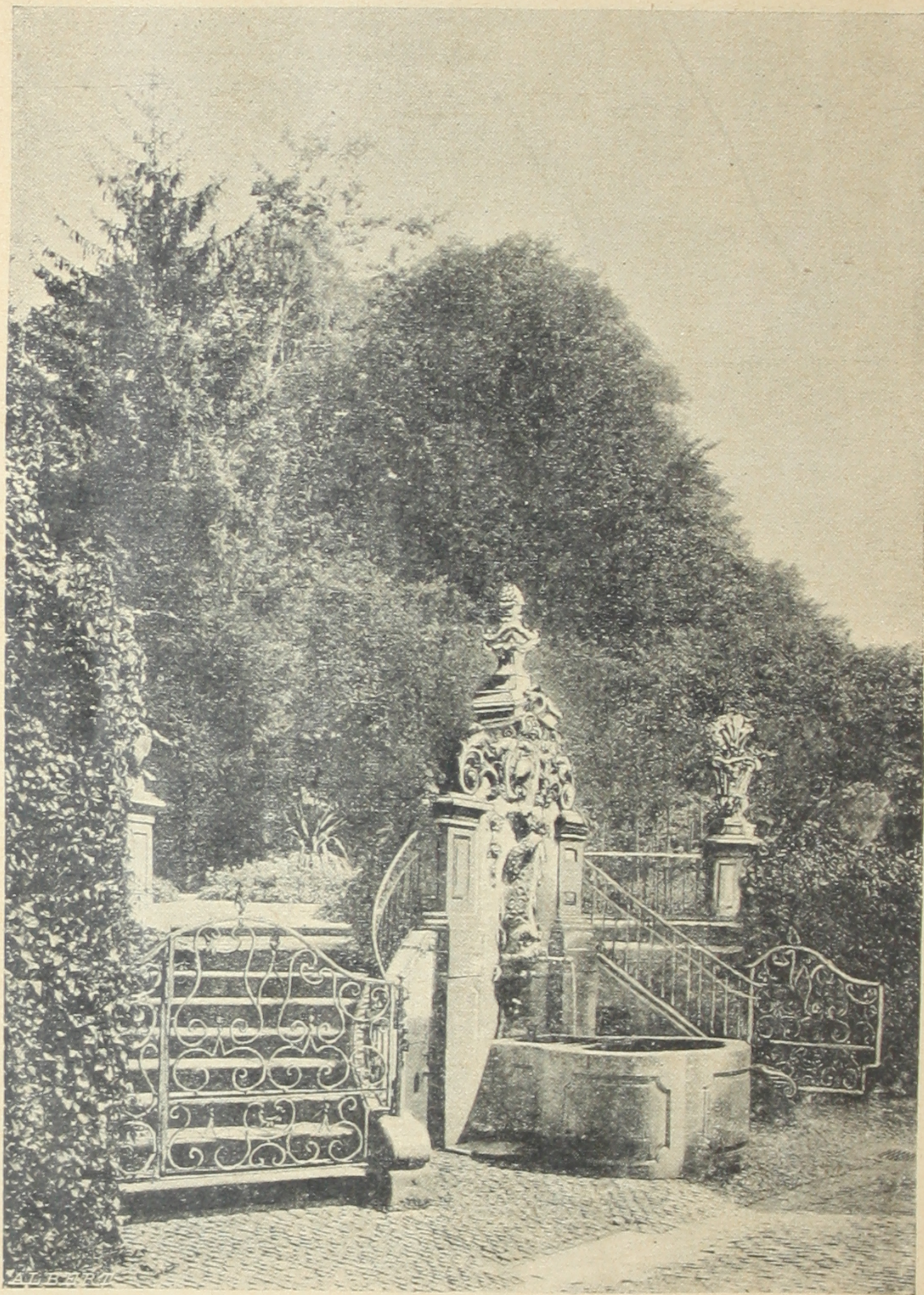


Fig. 96. Terrace in the Park of the House Rehberg, Zürich.
Taken from Dohme „Barock- und Rococo-Architectur“, Berlin, Ernst Wasmuth

General Remarks.

If plans, drawings or other particulars necessary for the execution of the project in question, are not supplied to the works in proper time, the **term for delivery** may be correspondingly extended.

Brickwork and building materials are in no case included in the supply.

If the works undertake the **erection**, everything must be properly prepared by the time the fitters arrive, it is of particular importance that all necessary apertures, to be cut in the brickwork for the support of the beams and stairs, are already finished. If the fitter is kept waiting his time will be charged at the rate of $10\frac{1}{2}$ d per hour extra.

Any charges made for **packing** will not be refunded.

Any **complaints** should be given in writing to the fitters carrying out the erection, to be taken to the works.

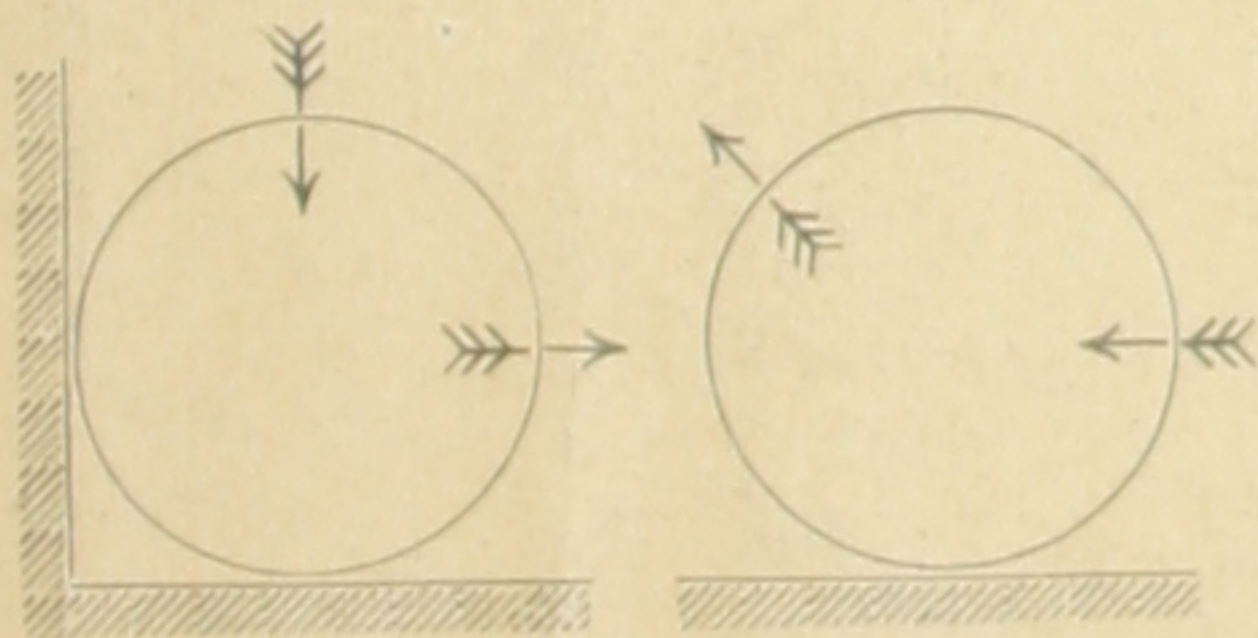
Terms of payment: Three months' bills or $1\frac{1}{2}\%$ discount for each full month on cash payments made earlier. In the case of big orders special terms of payment are arranged. Remittances and foreign bills are credited at the day's course less charges.

Transport: F. O. B. Wittenberg.

In ordering main staircases the architect's drawing of the wellhole or a sketch similar to the one annexed should be sent in. Particular care should be taken that the positions of the doors and windows in the walls enclosing the stairs, are very clearly shown. It is advisable to leave the works to decide as to the number of steps, the tread and width of the same, as also the size of the landings &c.

In ordering winding stairs a sketch showing the desired position of the entrance to and exit from the staircase, somewhat in the style of the annexed sketch should be supplied, but the arrangement, number and tread of the steps as also the direction of the rise should be decided by the works, which are better able to propose the most suitable arrangement.

If any doors in the walls enclosing the staircase are to be approachable from the stairs, the exact width of the doors and the distance of the same from the corners of the walls or from the centre of the stairs should be supplied.



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